TOOLING SYSTEM

G

Tooling System

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Small micro boring bar

G68

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Micro boring

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SMH
Small micro boring bar (precision type)

G72

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G75

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HRAG (90˚ fixed)
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G90

KAG
Attachment type KAG

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KAH
Modular type KAH (90˚ type)
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KAC
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FMC
DAMPING PRO

H100, 102, 103

Slim hydraulic expansion chuck

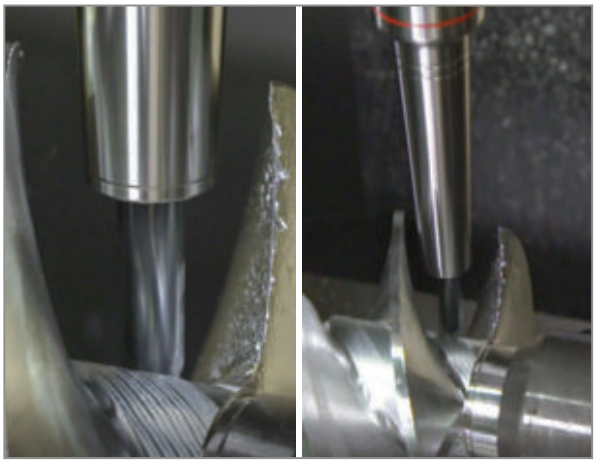
DHE/S

- Optimized chuck for machining that requires high-quality surface roughness and accuracy
- Suitable for challenging mold and automotive parts machining that involves complicated shapes and a lot of interferences
- Ideal for metal impeller machining, which requires deep penetration
- Enables easy tool connection without any additional connecting device
- Easy to perform fine boring operations (0.02-0.2 mm)
- Application scope: milling, drilling, reaming

Code system

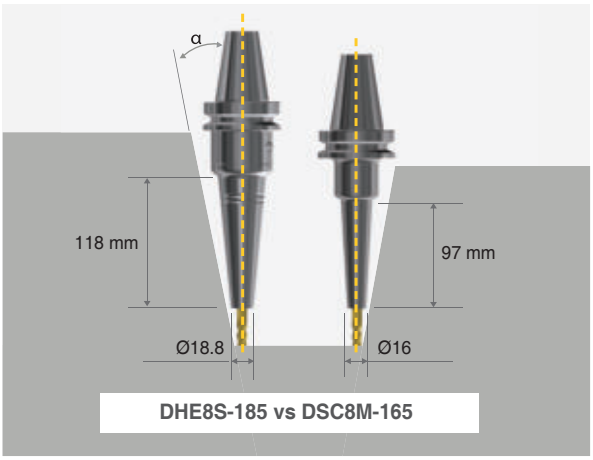
BT30-	DHE	8	S	-	115
Spindle	Hydraulic expansion chuck	Tool Dia.	Type (S: Silm)		Length

Recommended Machining Works



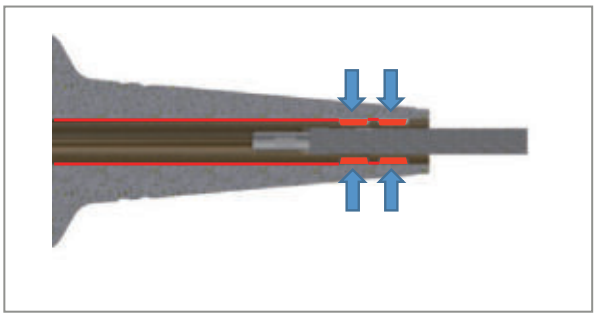
- Optimized for machining that requires high precision
- Enables challenging narrow and deep machining
- Products that require fine boring operations

Product Comparison



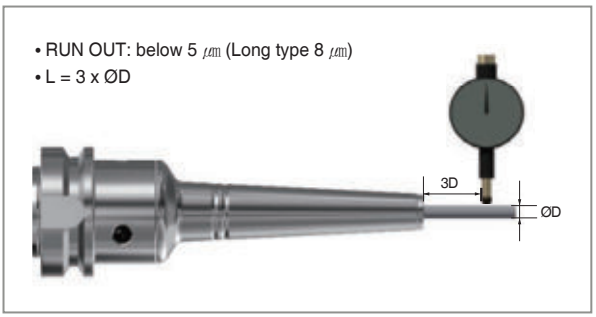
- Length and thickness are the same as those of DSC/M Type (if the tool projection length is 40 mm, difference of α = around 2°)
- Longer gauge line and higher rigidity (versus the DSC/M Type)
- Ideal for mold machining due to its 3-degree taper shape

Stable Clamping force

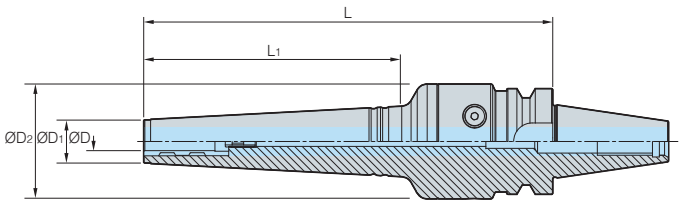


- Maintains high clamping force and good accuracy by holding the tool at two points

High-precision



BT-DHE/S



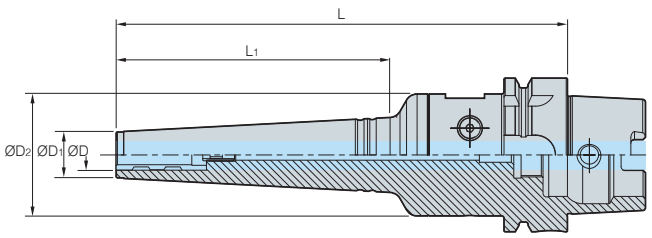
(mm)

Designation		ØD	ØD1	ØD2	L	L1	RPM	Run-out Based on 3D	kg
BT30 -	DHE6S-115	6	16.8	50	115	50	25,000	5 μm	1.1
	DHE6S-180	6	16.8	50	180	115	25,000	8 μm	1.4
	DHE8S-115	8	18.8	50	115	50	25,000	5 μm	1.1
	DHE8S-180	8	18.8	50	180	115	25,000	8 μm	1.4
	DHE10S-120	10	20.8	50	120	55	25,000	5 μm	1.4
	DHE10S-180	10	20.8	50	180	115	25,000	8 μm	1.9
	DHE12S-130	12	22.8	50	130	65	25,000	5 μm	1.2
	DHE12S-180	12	22.8	50	180	115	25,000	8 μm	1.6
BT40 -	DHE6S-120	6	16.8	50	120	50	15,000	5 μm	1.7
	DHE6S-185	6	16.8	50	185	115	15,000	8 μm	2.0
	DHE8S-120	8	18.8	50	120	50	15,000	5 μm	2.0
	DHE8S-185	8	18.8	50	185	115	15,000	8 μm	2.0
	DHE10S-125	10	20.8	50	125	55	15,000	5 μm	1.6
	DHE10S-185	10	20.8	50	185	115	15,000	8 μm	2.0
	DHE12S-135	12	22.8	50	135	65	15,000	5 μm	1.8
	DHE12S-185	12	22.8	50	185	115	15,000	8 μm	2.2

Spare Part **G06**

• Through coolant system installed

HSK-DHE/S



(mm)

Designation		ØD	ØD1	ØD2	L	L1	RPM	Run-out Based on 3D	kg
HSK63A -	DHE6S-120	6	16.8	50	120	50	10,000	5 μm	1.4
	DHE6S-185	6	16.8	50	185	115	10,000	8 μm	1.7
	DHE8S-120	8	18.8	50	120	50	10,000	5 μm	1.4
	DHE8S-185	8	18.8	50	185	115	10,000	8 μm	1.8
	DHE10S-125	10	20.8	50	125	55	10,000	5 μm	1.5
	DHE10S-185	10	20.8	50	185	115	10,000	8 μm	1.8
	DHE12S-135	12	22.8	50	135	65	10,000	5 μm	1.8
	DHE12S-185	12	22.8	50	185	115	10,000	8 μm	1.8

• Through coolant system installed

Parts

Basic					
Division		Clamp bolt	Wrench	Division	Adjust screw
Designation \ Parts				Designation \ Parts	
BT30	DHE/S 6, 8, 10, 12	BTF1010	DHETW-5	DHE/S 6, 8, 10	DHE-M5 (ADJ)
BT40/HSK63A	DHE/S 6, 8, 10, 12	BTF1010	DHETW-5	DHE/S 12	DHE-M10 (ADJ)

Hydraulic expansion chuck

DHE

- Ideal for mold making and machining automobile components & precise parts due to high precision machining
- Improved surface roughness due to vibration proof by hydraulic chamber
- Reduced replacement time and tiredness of worker with the use of T wrench for removal
- Applicable shank diameter: Ø6~32

Code system

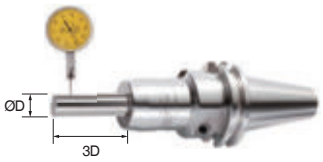
BT40 - DHE 20 - 140

- BT40 — Spindle
- DHE — Hydraulic expansion chuck
- 20 — Max. Chucking dia.
- 140 — Length

Features

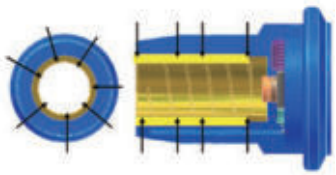
High accuracy provides long tool life due to reduced wear and hydraulic room enhances a surface roughness by lessening vibrations

- RUN OUT: under 5 μm
- L = 3 x ØD
- Shank: Tolerance of ØD: h6



Internal sealing structure (Durability)

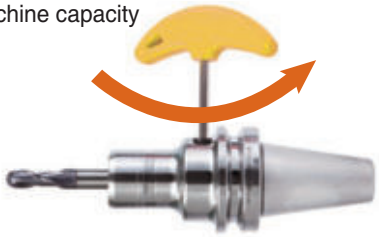
- Internal sealing system protects the chuck against dust, cutting oil, lubricant and chips getting into it
  - Maintaining clamping force and accuracy for a long time



Shank	Grade	Max.rpm
BT50, HSK100A	G6.3	8,000
BT40, HSK63A		10,000
BT30, SK30		15,000

With simple t-wrench,very easy to change a tool

- Clamping structure for easy operation (Convenience)
  - Decrease of worker's fatigue
  - Improving machine capacity



Stable clamping

The clearance between holder and tool is fixed by hydraulic pressure

BT-DHE

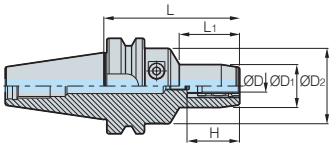


Fig. 1

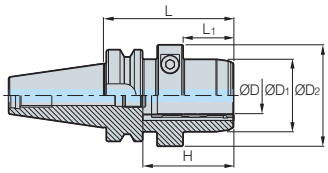


Fig. 2

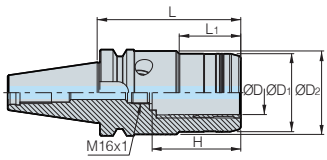


Fig. 3

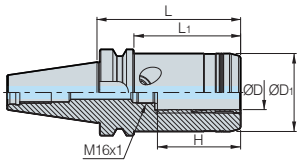


Fig. 4

(mm)

Designation		ØD	ØD1	ØD2	L	L1	H	Adjust screw	kg	Fig.
BT30 -	DHE6-65	6	29	46	65	33	30~39.8	M5	0.7	1
	DHE8-65	8	31	46	65	33	30~39.8	M5	0.7	1
	DHE10-65	10	32	46	65	34	35~44.8	M5	0.7	1
	DHE12-70	12	35	46	70	34	41~50.8	M5	0.8	1
	DHE14-90	14	36	46	90	40	43~52.8	M5	1.0	1
	DHE16-90	16	40	46	90	45	46~55.8	M5	1.0	1
	DHE18-90	18	42	46	90	40	49~58.8	M5	1.1	1
	DHE20-90	20	44	46	90	45	49~58.8	M5	1.1	1
BT40 -	DHE6-90	6	29	50	90	40	30~39.8	M5	1.4	1
	DHE6-140	6	29	50	140	40	30~39.8	M5	2.2	1
	DHE8-90	8	31	50	90	40	30~39.8	M5	1.4	1
	DHE8-140	8	31	50	140	40	30~39.8	M5	2.2	1
	DHE10-90	10	33	50	90	40	35~44.8	M5	1.5	1
	DHE10-140	10	33	50	140	40	35~44.8	M5	2.2	1
	DHE12-90	12	35	50	90	40	41~50.8	M10	1.5	1
	DHE12-140	12	35	50	140	40	41~50.8	M10	2.3	1
	DHE14-90	14	36	50	90	40	43~52.8	M10	1.5	1
	DHE14-140	14	36	50	140	40	43~52.8	M10	2.2	1
	DHE16-90	16	40	50	90	45	46~55.8	M10	1.5	1
	DHE16-140	16	40	50	140	45	46~55.8	M10	2.2	1
	DHE18-90	18	42	50	90	45	49~58.8	M10	1.5	1
	DHE18-140	18	42	50	140	45	49~58.8	M10	2.2	1
	DHE20-90	20	44	50	90	47	49~58.8	M10	1.5	1
	DHE20-140	20	44	50	140	50	49~58.8	M10	2.3	1
	DHE25-90	25	50	70	90	35	58~67.8	M16	2.0	2
	DHE25-105	25	57	-	105	78	51~61	M16	2.0	4
	DHE25-140	25	57	-	140	113	51~61	M16	2.6	4
	DHE32-90	32	63	75	90	35	58~67.8	M16	2.3	2
	DHE32-105	32	57	61	105	45	55~65	M16	2.4	3
	DHE32-140	32	57	61	140	45	55~65	M16	3.0	3

Spare Part **G10** Applicable collet **G11**

• H: Insertion depth of tool (Min.~max.) • Through coolant system installed

BT-DHE

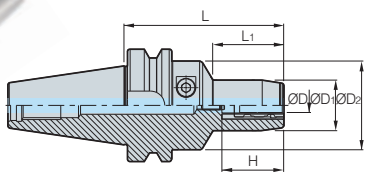


Fig. 1

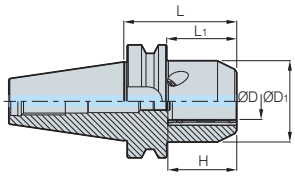


Fig. 2

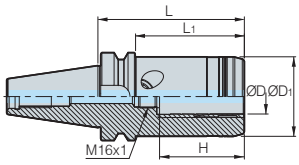


Fig. 3

(mm)

Designation		ØD	ØD1	ØD2	L	L1	H	Adjust screw	kg	Fig.
BT50 -	DHE6-90	6	29	50	90	34	30~39.8	M5	3.9	1
	DHE6-140	6	29	50	140	40	30~39.8	M5	4.4	1
	DHE8-90	8	31	50	90	34	30~39.8	M5	4.2	1
	DHE8-140	8	31	50	140	40	30~39.8	M5	4.6	1
	DHE10-90	10	33	50	90	34	35~44.8	M5	3.9	1
	DHE10-140	10	33	50	140	34	35~44.8	M5	4.5	1
	DHE12-90	12	35	50	90	34	41~50.8	M10	4.0	1
	DHE12-140	12	35	50	140	34	41~50.8	M10	4.6	1
	DHE14-90	14	36	50	90	34	43~52.8	M10	3.9	1
	DHE14-140	14	36	50	140	34	43~52.8	M10	4.5	1
	DHE16-90	16	40	50	90	34	46~55.8	M10	4.1	1
	DHE16-140	16	40	50	140	34	46~55.8	M10	4.7	1
	DHE18-90	18	42	50	90	40	49~58.8	M10	4.0	1
	DHE18-140	18	42	50	140	45	49~58.8	M10	4.5	1
	DHE20-90	20	44	50	90	34	49~58.8	M10	4.0	1
	DHE20-140	20	44	50	140	47	49~58.8	M10	4.5	1
	DHE25-90	25	66	-	90	52	58~67.8	M16	4.7	2
	DHE25-150	25	57	-	150	112	51~61	M16	4.5	3
	DHE32-90	32	72	-	90	52	58~67.8	M16	5.8	2

Spare Part G10 Applicable collet G11

• H: Insertion depth of tool (Min.~max.) • Through coolant system installed

HSK-DHE

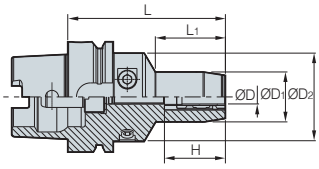


Fig. 1

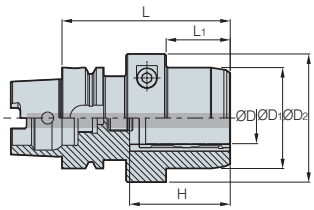


Fig. 2

(mm)

Designation		ØD	ØD1	ØD2	L	L1	H	Adjust Screw	RPM	kg	Fig.
HSK63A -	DHE6-75	6	29	50	75	34	30~39.8	M5	10,000	1.0	1
	DHE8-75	8	31	50	75	34	30~39.8	M5	10,000	1.0	1
	DHE10-85	10	33	50	85	40	35~44.8	M5	10,000	1.2	1
	DHE12-90	12	35	50	90	40	41~50.8	M5	10,000	1.2	1
	DHE16-95	16	40	50	95	45	46~55.8	M10	10,000	1.3	1
	DHE20-100	20	44	50	100	50	49~58.8	M10	10,000	1.4	1
	DHE20-150	20	44	50	150	50	49~58.8	M10	10,000	2.2	1
	DHE25-110	25	50	70	110	48	56~67.8	M16	10,000	2.0	2
	DHE32-110	32	63	80	110	48	56~67.8	M16	10,000	2.0	2
HSK100A -	DHE20-105	20	44	50	105	50	49~58.8	M10	8,000	2.9	1
	DHE25-115	25	50	63	115	62	58~67.8	M16	8,000	3.2	1
	DHE32-115	32	63	75	115	62	58~67.8	M16	8,000	3.8	1

Applicable collet **G11**

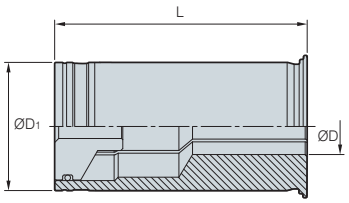
• H: Insertion depth of tool (Min.~max.) • Through coolant system is optional

Parts

Basic					
Division		Clamp bolt	Wrench	Division	Adjust screw
Designation \ Parts				Designation \ Parts	
BT30 / HSK50	DHE 6, 8, 10, 12	BTF1010	DHETW-5	DHE 6, 8, 10	DHE-M5 (ADJ)
	DHE 14, 16, 18, 20	BTF1010	DHETW-5		
BT40 / BT50 HSK63A / HSK100A	DHE 6, 8, 10, 12, 14, 16, 18, 20	BTF1010	DHETW-5	DHE 12, 14, 16, 18, 20	DHE-M10 (ADJ)
	DHE 25, 32	BTF1212-1.5	DHETW-6	DHE 25, 32	DHE-M16 (ADJ)

DHC Collet

General type



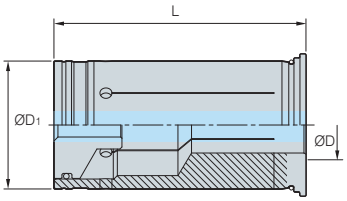
(mm)

Designation	ØD	ØD1	L
DHC12- 3, 4, 5, 6, 8	3, 4, 5, 6, 8	12	47
DHC20- 3, 4, 5 , 6, 7, 8, 9, 10, 11, 12, 14, 16	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16	20	52
DHC32- 6, 8, 10, 12, 14, 16, 18, 19, 20, 25	6, 8, 10, 12, 14, 16, 18, 19, 20, 25	32	63

• Through coolant system not available

DHC Collet

Accuracy type



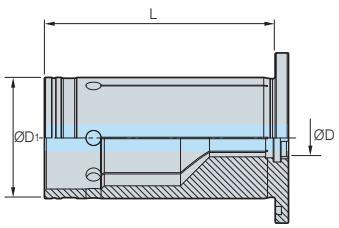
(mm)

Designation	ØD	ØD1	L
DHC12- 3(P), 4(P), 5(P), 6(P), 8(P)	3, 4, 5, 6, 8	12	47
DHC20- 3(P), 4(P), 5(P), 6(P), 7(P), 8(P), 9(P), 10(P), 11(P), 12(P), 14(P), 16(P)	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16	20	52
DHC32- 6(P), 8(P), 10(P), 12(P), 14(P), 16(P), 18(P), 19(P), 20(P), 25(P)	6, 8, 10, 12, 14, 16, 18, 19, 20, 25	32	63

• Through coolant system installed

DHJ Collet

Jet coolant



(mm)

Designation	ØD	ØD	L
DHJ20-6, 8, 10, 12, 14, 16	6, 8, 10, 12, 14, 16	20	50

• Through coolant system installed

Shrinking chuck

DSC

- Use of specially heat-treated steel
- High precision machining and clamping
- Increased precision and longer tool life due to minimized overhang when machining deep grooves
- Applicable shank diameter: Ø3~32

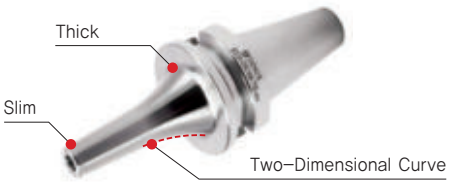
Code System

BT50 - DSC 6 - S - 165 - S

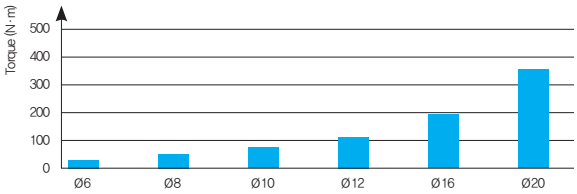
Shank type	Holder type	Tool Dia.	Type	Length	Special
BT, HSK, ST, CS, CM	DSC: Shrinking chuck SLK: 2piece holder Collet		S: Silm M: Middle None: General		S: Curve type None: General

Mono curve type

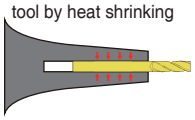
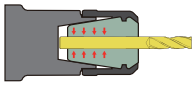
- Integral DSC with excellent precision and balancing
- Long but stable holder design



High clamping force

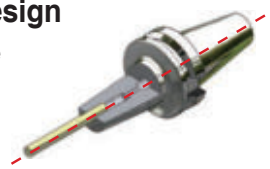


- 30% stronger Clamping Force
- Run-Out (≤ 0.003 mm)
- Higher Power transmission Clamping Force by Inner-Size

Shrinking chuck	Collet chuck
Fix the clearance between holder and tool by heat shrinking	Fix the tool by elasticity of collet
	
Thermal expansion ▶ Thermal shrinking Highly strong clamping	Elastic deformation Strong clamping

Symmetric design

- High clamping force

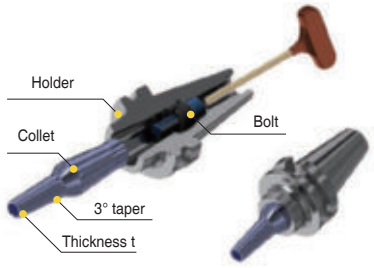
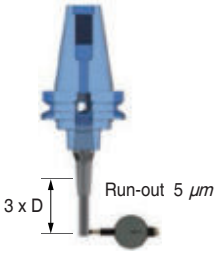
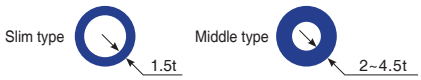


Slim type series

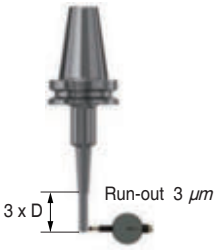
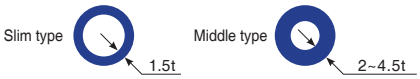
Straight type	Mono type	2piece type
		
Used by combining with various holders such as hydraulic expansion chuck, milling chuck, and collet chuck	Used with high precision as integral types	Holder + collet connection shape Connecting the holder and collet by the bolt tightening method

2-pieces type

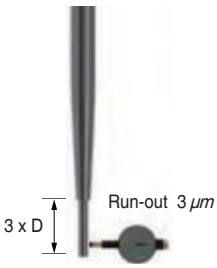
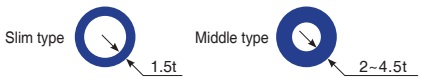
2Piece types enable various machining operations by collet replacement and provide convenience in tool management and use based on easy and fast assembly using tightening bolts.

Figure	Accuracy	Type
		 Holder + collet connection shape Connecting the holder and collet by the bolt tightening method

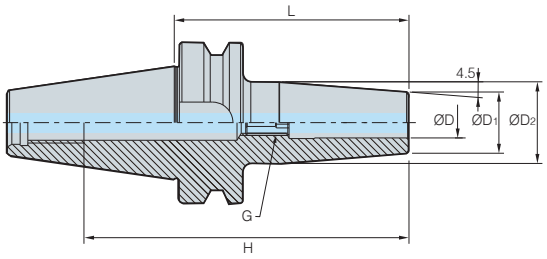
Mono type

Figure	Accuracy	Type
		

Straight type

Figure	Accuracy	Type
		 Used by combining with various holders such as hydraulic expansion chuck, milling chuck, and collet chuck, etc.

BT-DSC



(mm)

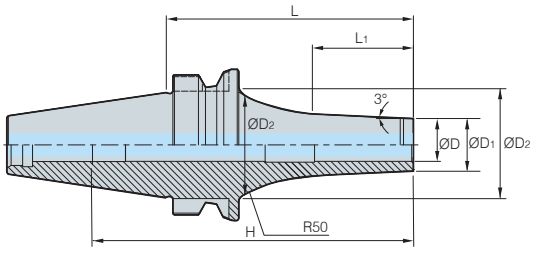
Designation		ØD	ØD1	ØD2	L	H	G	RPM	kg
BT30 -	DSC3-60	3	11	18.5	60	82	-	25,000	0.4
	DSC4-60	4	13	20.5	60	82	-	25,000	0.4
BT40 -	DSC6-90	6	21	27	90	36	M5	20,000	1.1
	DSC6-120	6	21	27	120	36	M5	20,000	1.2
	DSC6-160	6	21	27	160	36	M5	20,000	1.4
	DSC8-90	8	21	27	90	36	M5	20,000	1.1
	DSC8-120	8	21	27	120	36	M5	20,000	1.2
	DSC8-160	8	21	27	160	36	M5	20,000	1.4
	DSC10-90	10	24	32	90	42	M8	20,000	1.1
	DSC10-120	10	24	32	120	42	M8	20,000	1.3
	DSC10-160	10	24	32	160	42	M8	20,000	1.6
	DSC12-90	12	24	32	90	47	M8	20,000	1.1
	DSC12-120	12	24	32	120	47	M8	20,000	1.3
	DSC12-160	12	24	32	160	47	M8	20,000	1.6
	DSC16-90	16	27	34	90	50	M12	20,000	1.2
	DSC16-120	16	27	34	120	50	M12	20,000	1.3
	DSC16-160	16	27	34	160	50	M12	20,000	1.7
	DSC20-90	20	33	42	90	52	M12	20,000	1.3
	DSC20-120	20	33	42	120	52	M12	20,000	1.5
	DSC20-160	20	33	42	160	52	M12	20,000	2.0

Adjust screw **G19**

• H: Insertion depth of tool • Through coolant system installed

BT-DSC/M

Mono Curve type



(mm)

Designation		ØD	ØD1	ØD2	L	L1	H	RPM	kg
BT30 -	DSC3M-75S	3	8	25	75	29.8	97	25,000	0.4
	DSC4M-75S	4	10	25	75	31.8	97	25,000	0.4
	DSC6M-75S	6	12	30	75	28.9	97	25,000	0.5
	DSC8M-75S	8	14	32	75	28.9	97	25,000	0.5
	DSC10M-75S	10	16	32	75	30.7	45	25,000	0.5
	DSC12M-75S	12	19	32	75	33.8	45	25,000	0.5

• H: Insertion depth of tool • Not able to use the adjust screw • Through coolant system installed

BT-DSC/M

Mono type

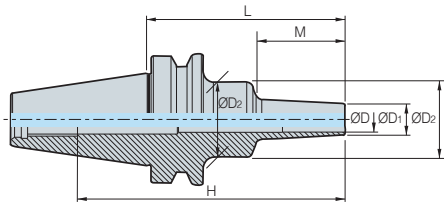


Fig. 1

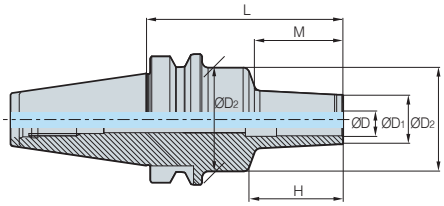


Fig. 2

(mm)

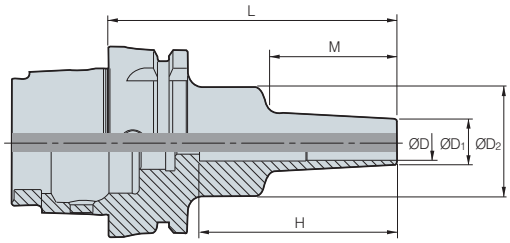
Designation		ØD	ØD₁	ØD₂	L	M	H	RPM	kg	Fig.
BT40 -	DSC3M-95	3	8	26	95	42	128	20,000	1.1	1
	DSC4M-95	4	8	26	95	42	128	20,000	1.1	1
	DSC6M-95	6	10	26	95	42	128	20,000	1.0	1
	DSC6M-120	6	10	26	120	67	153	20,000	1.0	1
	DSC6M-160	6	10	36	160	97	193	20,000	1.2	1
	DSC8M-95	8	13	36	95	42	128	20,000	1.3	1
	DSC8M-120	8	13	36	120	67	153	20,000	1.3	1
	DSC8M-160	8	13	36	160	97	193	20,000	1.3	1
	DSC10M-95	10	16	36	95	42	128	20,000	1.1	1
	DSC10M-120	10	16	36	120	67	153	20,000	1.1	1
	DSC10M-160	10	16	36	160	97	193	20,000	1.3	1
	DSC12M-95	12	19	36	95	42	128	20,000	1.1	1
	DSC12M-120	12	19	36	120	67	153	20,000	1.2	1
	DSC12M-160	12	19	36	160	97	193	20,000	1.4	1
	DSC16M-95	16	24	50	95	42	47	20,000	1.3	2
	DSC16M-120	16	24	50	120	67	47	20,000	1.4	2
	DSC16M-160	16	24	50	160	97	47	20,000	1.7	2
	DSC20M-95	20	29	50	95	42	55	20,000	1.3	2
	DSC20M-120	20	29	50	120	67	55	20,000	1.5	2
	DSC20M-160	20	29	50	160	97	55	20,000	1.9	2
BT50 -	DSC6M-110	6	10	26	110	42	163	15,000	3.5	1
	DSC6M-160	6	10	36	160	97	213	15,000	3.6	1
	DSC8M-110	8	13	36	110	42	163	15,000	3.7	1
	DSC8M-160	8	13	36	160	97	213	15,000	3.7	1
	DSC10M-110	10	16	36	110	42	163	15,000	3.7	1
	DSC10M-160	10	16	36	160	97	213	15,000	3.7	1
	DSC12M-110	12	19	36	110	42	163	15,000	3.7	1
	DSC12M-160	12	19	50	160	97	213	15,000	4.0	1
	DSC16M-110	16	24	50	110	42	163	15,000	3.9	1
	DSC16M-160	16	24	50	160	97	213	15,000	4.1	1
	DSC20M-110	20	29	50	110	42	55	15,000	3.9	2
	DSC20M-160	20	29	50	160	97	55	15,000	4.2	2

Adjust screw G19

• H: Insertion depth of tool • Through coolant system installed

HSK-DSC/M

Mono type



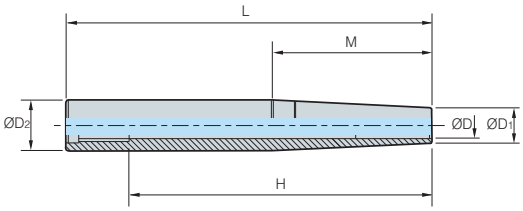
(mm)

Designation		ØD	ØD1	ØD2	L	M	H	RPM	kg
HSK63A -	DSC6M-95	6	10	26	95	42	73	20,000	0.7
	DSC8M-95	8	13	36	95	42	39	20,000	0.8
	DSC10M-120	10	16	36	120	67	45	20,000	0.8
	DSC12M-120	12	19	36	120	67	45	20,000	0.9
	DSC16M-120	16	24	50	120	67	47	20,000	1.1

• H: Insertion depth of tool • Not able to use the adjust screw • Through coolant system is optional

ST-DSC/M

Straight Shank Shrinking Chuck



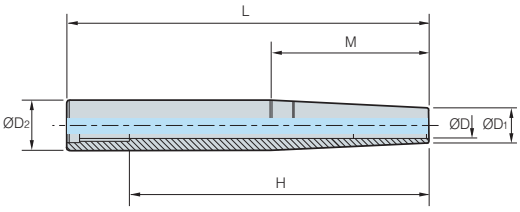
(mm)

Designation		ØD	ØD1	ØD2	L	M	H	kg
ST16 -	DSC6M-115	6	10	16	115	50	95	0.1
	DSC6M-140	6	10	16	140	60	120	0.1
ST20 -	DSC6M-175	6	10	20	175	95	155	0.2
	DSC8M-145	8	13	20	145	70	125	0.2
	DSC10M-120	10	16	20	120	50	45	0.2
ST25 -	DSC8M-175	8	13	25	175	105	155	0.4
	DSC10M-145	10	16	25	145	75	45	0.4
	DSC10M-175	10	16	25	175	105	45	0.4
	DSC12M-120	12	19	25	120	50	45	0.3
	DSC12M-150	12	19	25	150	80	45	0.4
	DSC16M-175	16	24	25	175	50	47	0.5
ST32 -	DSC20M-175	20	29	32	175	50	55	0.8

• H: Insertion depth of tool • Not able to use the adjust screw • Through coolant system installed

ST-DSC/S

Straight Shank Shrinking Chuck



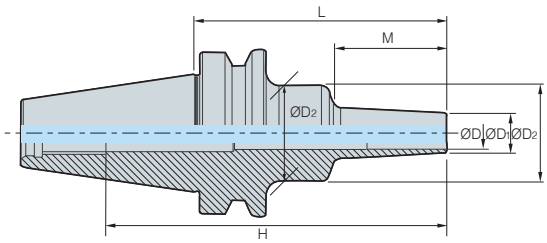
(mm)

Designation		ØD	ØD1	ØD2	L	M	H
ST16 -	DSC6S-115	6	9	16	115	55	95
	DSC6S-140	6	9	16	140	70	120
	DSC8S-115	8	11	16	115	50	95
ST20 -	DSC6S-175	6	9	20	175	105	155
	DSC8S-175	8	11	20	175	85	155
	DSC10S-145	10	13	20	145	75	77
	DSC12S-120	12	15	20	120	50	52
ST32 -	DSC12S-315	12	15	32	315	185	295

• H: Insertion depth of tool • Not able to use the adjust screw • Through coolant system installed

BT-DSC/S

Mono slim type



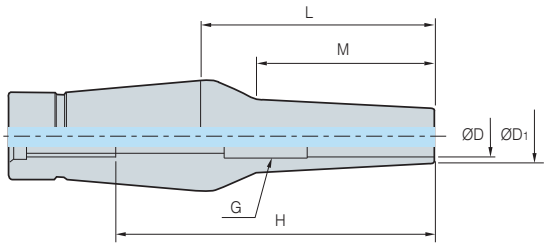
(mm)

Designation		ØD	ØD1	ØD2	L	M	H	RPM	kg
BT30 -	DSC6S-60	6	9	20	60	22	82	25,000	0.4
	DSC6S-80	6	9	20	80	42	102	25,000	0.5
	DSC6S-120	6	9	25	120	67	142	25,000	0.5
BT40 -	DSC6S-95	6	9	26	95	42	128	20,000	1.0
	DSC6S-120	6	9	26	120	67	153	20,000	1.0
	DSC6S-160	6	9	36	160	97	193	20,000	1.2
	DSC8S-95	8	11	36	95	42	128	20,000	1.1
	DSC8S-120	8	11	36	120	67	153	20,000	1.1
	DSC8S-160	8	11	36	160	97	193	20,000	1.2
	DSC10S-95	10	13	36	95	42	128	20,000	1.0
	DSC10S-120	10	13	36	120	67	153	20,000	1.1
	DSC10S-160	10	13	36	160	97	193	20,000	1.2
	DSC12S-95	12	15	36	95	42	128	20,000	1.1
	DSC12S-120	12	15	36	120	67	153	20,000	1.1
	DSC12S-160	12	15	36	160	97	193	20,000	1.2
BT50 -	DSC6S-110	6	9	26	110	42	166	15,000	3.5
	DSC6S-160	6	9	36	160	97	216	15,000	3.6
	DSC8S-110	8	11	36	110	42	166	15,000	3.6
	DSC8S-160	8	11	36	160	97	216	15,000	3.6
	DSC10S-110	10	13	36	110	42	166	15,000	3.6
	DSC10S-160	10	13	36	160	97	216	15,000	3.6
	DSC12S-110	12	15	36	110	42	166	15,000	3.6
	DSC12S-160	12	15	36	160	97	216	15,000	3.7

• H: Insertion depth of tool • Not able to use the adjust screw • Through coolant system installed

CS/CM

2-pieces type



(mm)

Designation		ØD	ØD1	L	M	H	kg
CS12	6-35	6	9	35	22	55	0.1
	6-80	6	9	80	67	100	0.2
	6-110	6	9	110	97	130	0.2
	8-35	8	11	35	22	55	0.1
	8-110	8	11	110	97	130	0.3
	10-35	10	13	35	22	45	0.1
	10-80	10	13	80	67	65	0.2
	10-110	10	13	110	97	65	0.3
	12-35	12	15	35	22	45	0.1
	12-55	12	15	55	42	49.5	0.2
	12-80	12	15	80	67	65	0.2
	12-110	12	15	110	97	65	0.3

• H: Insertion depth of tool • Not able to use the adjust screw • Through coolant system installed

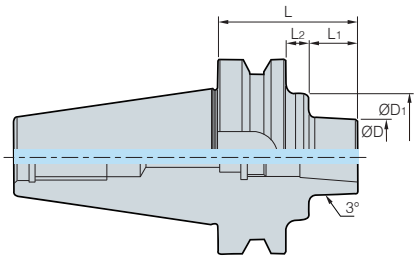
(mm)

Designation		ØD	ØD1	L	M	H	G	kg
CM12	6-35	6	12	35	22	55	M5	0.2
	6-80	6	12	80	67	100	M5	0.2
	8-35	8	14	35	22	55	M5	0.2
	8-55	8	14	55	42	75	M5	0.2
	8-80	8	14	80	67	100	M5	0.3
	10-35	10	16	35	22	45	M8	0.2
	10-55	10	16	55	42	45	M8	0.2
	10-80	10	16	80	67	45	M8	0.3
	12-35	12	20	35	22	45	M8	0.2
	12-55	12	20	55	42	45	M8	0.3
	12-80	12	20	80	52	55	M8	0.3

• H: Insertion depth of tool • Not able to use the adjust screw • Through coolant system installed

BT-SLK

2-pieces type



(mm)

Designation		ØD	ØD1	L	L1	L2	kg
BT30 -	SLK12-35	38	-	35	13	-	0.4
	SLK12-45F	41	-	45	18	-	1.0
	SLK12-75F	41	-	75	48	-	1.3
	SLK12-135F	41	-	135	108	-	2.1
BT50 -	SLK12-75	38	65	75	25	12	4.1
	SLK12-75F	41	65	75	25	12	4.1
	SLK12-105F	41	65	105	55	12	4.5
	SLK12-135F	41	65	135	85	12	5.3
	SLK12-225	38	65	225	150	37	6.2
	SLK12-315	38	90	315	150	127	11.5

• Through coolant system installed • PULL STUD BOLT is needed for BT30-SLK12-35

Parts

Basic											
Type		DSC6	DSC8	DSC10	DSC12	DSC14	DSC16	DSC18	DSC20	DSC25	DSC32
Adjust screw		M520C		M820C		M1230C					

New power milling chuck

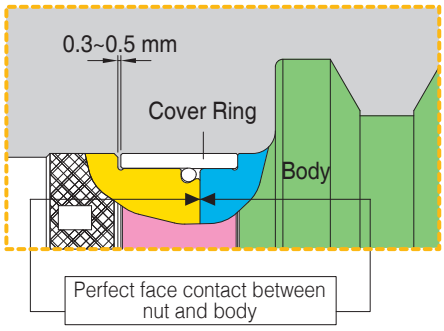
NPM

- Strong clamping over 500kgf·m (on NPM42 basis)
- DUST BLOCK functions for blocking foreign substance
- Jet coolant available
- High precision within 15 ㎛ at L/D = 3
- Boring range: Ø20~42

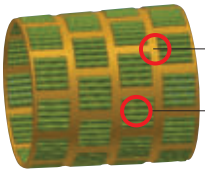
Code system

BT40	-	NPM	32	-	110
Spindle		New power milling chuck	Max. chucking dia.		Length

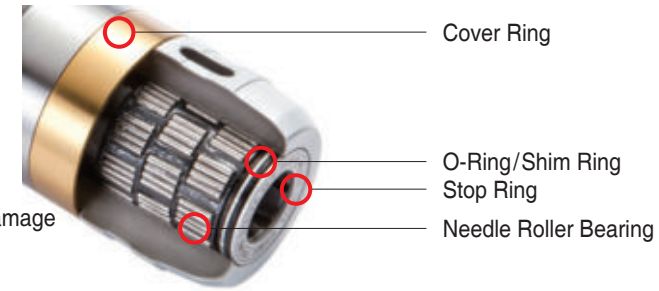
Improvement of durability by preventing minute dust, chips and coolant



• Adopted Stop Ring on Head parts
- Preventing minute dust by Shim & O-Ring



- Specially designed Steel Bearing for prevention of damage
- Strong clamping by spreading the force



Needle Roller Bearing

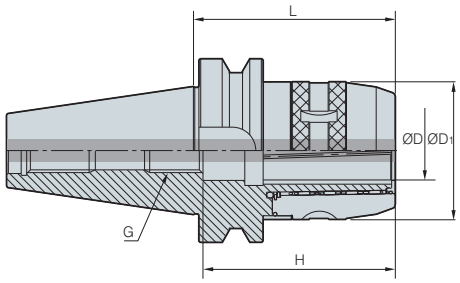
Stable machining from heavy to fine

Perfect face contact and Powerful clamping force strengthen both Cutting force and Absorbtion of vibration.

Depth of cut (Rd) = 1.0 mm	Depth of cut (Rd) = 2.5 mm	Depth of cut (Rd) = 3.5 mm	Depth of cut (Rd) = 5.0 mm	Depth of cut (Rd) = 8.0 mm
				

Possible machining from heavy milling to fine finishing

BT-NPM



(mm)

Designation		ØD	ØD1	L	H	G	Collet	kg
BT30 -	NPM20-85	20	54	85	85	M16	DC20, DCS20, DCJ20	1.2
BT40 -	NPM20-85	20	54	85	85	M16	DC20, DCS20, DCJ20	2.6
	NPM20-100	20	54	100	85	M16	DC20, DCS20, DCJ20	2.3
	NPM25-85	25	61	85	85	M16	DC25	1.7
	NPM32-90	32	75	90	87	M16	DC32, DCS32, DCJ32	2.3
	NPM32-110	32	75	110	95	M16	DC32, DCS32, DCJ32	2.8
	NPM32-135	32	75	135	95	M16	DC32, DCS32, DCJ32	3.5
BT50 -	NPM20-95	20	54	95	85	M16	DC20, DCS20, DCJ20	4.3
	NPM20-125	20	54	125	85	M16	DC20, DCS20, DCJ20	4.7
	NPM20-165	20	54	165	85	M16	DC20, DCS20, DCJ20	5.2
	NPM32-110	32	75	110	105	M24	DC32, DCS32, DCJ32	5.0
	NPM32-135	32	75	135	105	M24	DC32, DCS32, DCJ32	5.7
	NPM32-165	32	75	165	105	M24	DC32, DCS32, DCJ32	6.9
	NPM42-110	42	90	110	125	M24	DC42, DCS42	5.4
	NPM42-135	42	90	135	125	M24	DC42, DCS42	6.5
	NPM42-165	42	90	165	125	M24	DC42, DCS42	7.9

Applicable collet **G23**

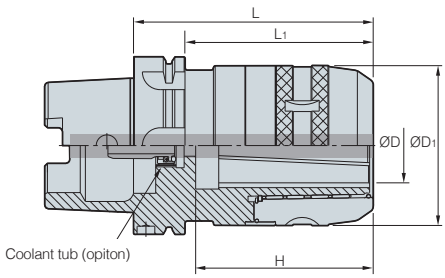
• H: Insertion depth of tool • Through coolant system is optional

• In case of L ≤ 90, chucks with over 90mm are recommended for medium cutting by short cap

Parts

For separate purchase			
Division	Collet	Spanner	Through coolant system
Parts / Designation			
NPM20	DC20, DCS20, DCJ20	57-60	CTC20-□□
NPM32	DC32, DCS32, DCJ20	75-79	CTC32-□□
NPM42	DC42, DCS42	92-96	CTC42-□□

HSK-NPM



(mm)

Designation		ØD	ØD1	L	L1	H	Collet	kg
HSK63A -	NPM20-100	20	54	100	74	75	DC20, DSC20, DCJ20	2.5
	NPM32-120	32	75	120	84	90	DC32, DCS32, DCJ32	2.9
HSK100A -	NPM32-130	32	75	130	101	90	DC32, DCS32, DCJ32	4.0

Spare Part **G21, G22** Applicable collet **G23**

• H: Insertion depth of tool • Through coolant system is optional

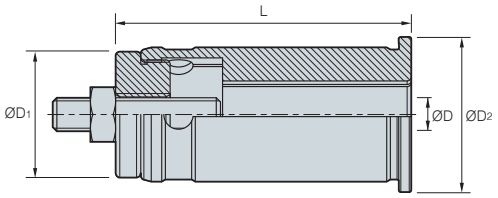
Parts

Division	For separate purchase
Internal coolant system	

Classification by shank	
HSK50	HSK50A-CNS
HSK63	HSK63A-CNS
HSK100	HSK100A-CNS

DCS

Straight Collet

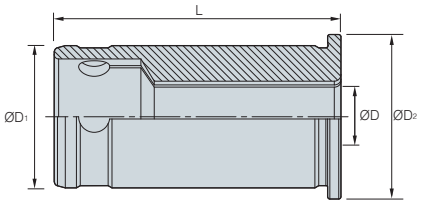


(mm)

Designation	ØD	ØD1	ØD2	L	kg
DCS20-6, 8, 10, 12, 16	6, 8, 10, 12, 16	20	26	55	0.2
DCS32-6, 8, 10, 12, 14, 16, 19, 20, 25	6, 8, 10, 12, 14, 16, 19, 20, 25	32	38	70	0.4
DCS42-6, 8, 10, 12, 16, 20, 25, 32	6, 8, 10, 12, 16, 20, 25, 32	42	48	75	0.7

DC

Straight Collet

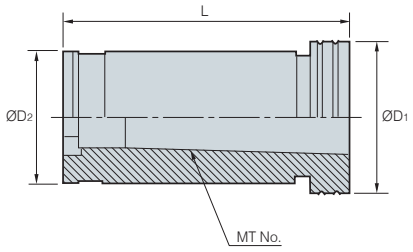


(mm)

Designation	ØD	ØD1	ØD2	L	kg
DC20-6, 8, 10, 12, 14, 16	6, 8, 10, 12, 14, 16	20	26	53	0.1
DC25-6, 8, 10, 12, 16	6, 8, 10, 12, 16	25	29	61.5	0.2
DC32-6, 8, 10, 12, 14, 16, 19, 20, 25	6, 8, 10, 12, 14, 16, 19, 20, 25	32	38	64.5	0.2
DC42-6, 8, 10, 12, 16, 20, 25, 32	6, 8, 10, 12, 16, 20, 25, 32	42	48	73	0.5

TC

Taper Collet



(mm)

Designation	ØD	ØD1	L	MT No.	Designation	ØD	ØD1	L	MT No.
TC20-1	26	20	60	MT1	**TC32-3**	38	32	90	MT3
TC20-2	26	20	72	MT2	**TC42-1**	48	42	60	MT1
TC25-1	32	25	60	MT1	**TC42-2**	48	42	72	MT2
TC25-2	32	25	72	MT2	**TC42-3**	48	42	90	MT3
TC32-1	38	32	60	MT1	**TC42-4**	48	42	112.5	MT4
TC32-2	38	32	72	MT2					

Collet chuck

SDC/P

- Improved precision (higher than conventional SDC)
- Simpler model number management than conventional SDC due to its organized gauge line
- Collet chuck suitable for multi-purpose machining with SWISSMADE sleeve nut adopted
- Boring range: Ø1~Ø25

Best functional nut (SWISS Made)

General R/RU Nut
Before

Soft sleeve bearing RN Nut
After

High speed collet chuck

DSK

- Available for machining at max.15,000 RPM and balancing of G6.3
- Minimized tool vibration during operation by using collet 8°
- Swiss made high precision nut enhances stability
- Tool clamping range: Ø2~25

Standard type & Precision type	Designation	Max chucking	Run-out
	HC6-Ød	6.0	Standard type 5 μm Precision type 3 μm
	HC10-Ød	10.0	
	HC13-Ød	13.0	
	HC16-Ød	16.0	
	HC20-Ød	20.0	
	HC25-Ød	25.0	

8° HC collet

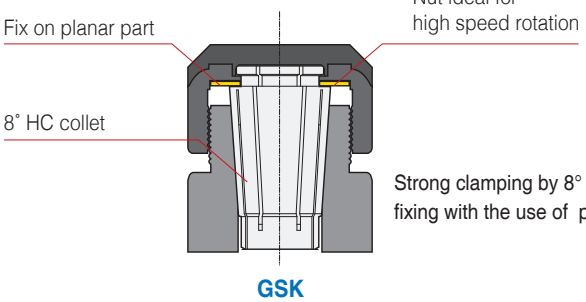
Minimized tool vibration during operation

Great speed slim collet chuck

GSK

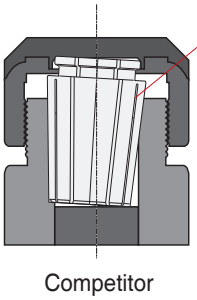
- Available for machining at max.25,000 RPM and balancing of G6.3
- Increased productivity due to high speed machining
- Minimized tool vibration during operation by using collet 8°
- Swiss made high precision nut enhances stability by pressing collet uniformly
- Tool clamping range: Ø2~25

Original design



Strong clamping by 8° collet and stable fixing with the use of planar part fixing

GSK



Imbalance due to centrifugal force during high speed rotation

Competitor

BT-SDC/P

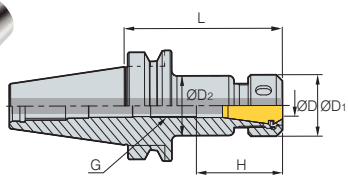


Fig. 1

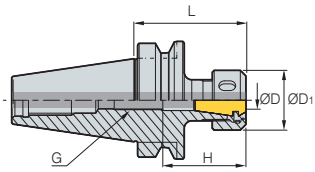


Fig. 2

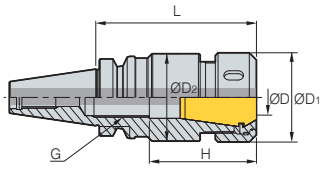


Fig. 3

(mm)

Designation		ØD	ØD1	ØD2	L	H	Collet	G	kg	Fig.
BT30 -	SDC7P-70	1.0~7.0	18	17	70	33	GERC11	M7	0.5	1
	SDC7P-100	1.0~7.0	18	17	100	33	GERC11	M7	0.5	1
	SDC10P-50	1.0~10.0	32	-	50	44.5	GERC16	M10	0.5	2
	SDC10P-70	1.0~10.0	32	31	70	44.5	GERC16	M10	0.6	1
	SDC10P-100	1.0~10.0	32	31	100	44.5	GERC16	M10	0.7	1
	SDC13P-50	1.0~13.0	35	-	50	49	GERC20	M7	0.5	2
	SDC13P-70	1.0~13.0	35	34	70	49	GERC20	M13	0.6	1
	SDC13P-100	1.0~13.0	35	34	100	49	GERC20	M13	0.8	1
	SDC16P-50	2.0~16.0	42	-	50	50	GERC25	M7	0.5	2
	SDC16P-70	2.0~16.0	42	41	70	50	GERC25	M18	0.7	1
	SDC16P-100	2.0~16.0	42	41	100	50	GERC25	M18	1.0	1
	SDC20P-60	2.0~20.0	50	-	60	60	GERC32	M7	0.6	2
	SDC20P-90	2.0~20.0	50	49	90	60	GERC32	M22	1.0	3
	SDC20P-120	2.0~20.0	50	49	120	60	GERC32	M22	1.4	3
BT40 -	SDC7P-70	1.0~7.0	18	17	70	33	GERC11	M7	0.9	1
	SDC7P-90	1.0~7.0	18	17	90	33	GERC11	M7	0.9	1
	SDC7P-130	1.0~7.0	18	17	130	33	GERC11	M7	1.0	1
	SDC10P-70	1.0~10.0	32	31	70	44.5	GERC16	M10	1.0	1
	SDC10P-90	1.0~10.0	32	31	90	44.5	GERC16	M10	1.2	1
	SDC10P-130	1.0~10.0	32	31	130	44.5	GERC16	M10	1.4	1
	SDC13P-70	1.0~13.0	35	34	70	49	GERC20	M13	1.1	1
	SDC13P-90	1.0~13.0	35	34	90	49	GERC20	M13	1.2	1
	SDC13P-130	1.0~13.0	35	34	130	49	GERC20	M13	1.4	1
	SDC13P-150	1.0~13.0	35	34	150	49	GERC20	M13	1.6	1
	SDC16P-70	2.0~16.0	42	41	70	50	GERC25	M18	1.1	1
	SDC16P-90	2.0~16.0	42	41	90	50	GERC25	M18	1.3	1
	SDC16P-130	2.0~16.0	42	41	130	50	GERC25	M18	1.7	1
	SDC20P-70	2.0~20.0	50	-	70	60	GERC32	M22	1.1	2
	SDC20P-90	2.0~20.0	50	49	90	60	GERC32	M22	1.4	1
	SDC20P-130	2.0~20.0	50	49	130	60	GERC32	M22	1.9	1
	SDC20P-150	2.0~20.0	50	49	150	60	GERC32	M22	2.2	1
	SDC26P-90	16.0~26.0	63	62	90	71	GERC40	M28	1.7	1

Spare Part G26 Applicable collet G33

- H: Insertion depth of tool
- Through coolant system is optional
- Collets in the right size are recommended for oil hole type

BT-SDC/P

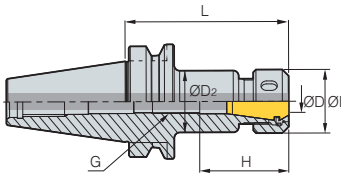


Fig. 1

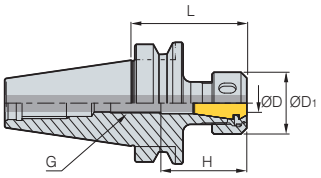


Fig. 2

(mm)

Designation		ØD	ØD1	ØD2	L	H	Collet	G	kg	Fig.
BT50 -	SDC10P-100	1.0~10.0	32	31	100	44.5	GERC16	M10	3.7	1
	SDC10P-120	1.0~10.0	32	31	120	44.5	GERC16	M10	3.7	1
	SDC10P-160	1.0~10.0	32	31	160	44.5	GERC16	M10	3.8	1
	SDC13P-100	1.0~13.0	35	34	100	49	GERC20	M13	3.8	1
	SDC13P-130	1.0~13.0	35	34	130	49	GERC20	M13	3.8	1
	SDC13P-160	1.0~13.0	35	34	160	49	GERC20	M13	4.1	1
	SDC13P-180	1.0~13.0	35	34	180	49	GERC20	M13	4.2	1
	SDC16P-100	2.0~16.0	42	41	100	50	GERC25	M18	3.9	1
	SDC16P-160	2.0~16.0	42	41	160	50	GERC25	M18	4.3	1
	SDC20P-70	2.0~20.0	50	-	70	60	GERC32	M22	1.7	2
	SDC20P-100	2.0~20.0	50	49	100	60	GERC32	M22	4.0	1
	SDC20P-130	2.0~20.0	50	49	130	60	GERC32	M22	4.3	1
	SDC20P-160	2.0~20.0	50	49	160	60	GERC32	M22	4.7	1
	SDC20P-180	2.0~20.0	50	49	180	60	GERC32	M22	5.0	1
	SDC26P-160	16.0~26.0	63	62	160	71	GERC40	M28	5.5	1

Spare Part G26 Applicable collet G33

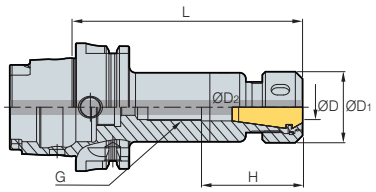
- H: Insertion depth of tool
- Through coolant system is optional
- Collets in the right size are recommended for oil hole type

Parts

Basic			For separate purchase	
Division	Sleeve bearing nut	Adjust screw	Spanner	Collet
Parts / Designation				
SDC7P	RN11	BN0716F	20-22	GERC/ER 11-ØD
SDC10P	RN16	BN1025F	32-35	GERC/ER 16-ØD
SDC13P	RN20	BN1325F	35-38	GERC/ER 20-ØD
SDC16P	RN25	BN1830F	42-46	GERC/ER 25-ØD
SDC20P	RN32	BN2230F	48-52	GERC/ER 32-ØD
SDC26P	RN40	BN2838F	62-65	GERC/ER 40-ØD

* NOTES: In case of the BT30-SDC13P-50/HSK63A-SDC13P-100, a BN0716F screw

HSK-SDC/P



(mm)

Designation		ØD	ØD1	ØD2	L	H	Collet	G	kg
HSK63A -	SDC10P-100	1.0~10.0	32	31	100	44.5	GER16	M10	1.0
	SDC13P-100	1.0~13.0	35	34	100	49	GER20	M7	1.1
	SDC16P-100	1.0~16.0	42	41	100	50	GER25	M7	1.2
	SDC20P-110	1.0~20.0	50	49	110	60	GER32	M7	1.5
HSK100A -	SDC16P-110	1.0~16.0	42	41	110	50	GER25	M13	2.6
	SDC20P-120	2.0~20.0	50	49	120	60	GER32	M10	2.9

Spare Part **G26, G27** Applicable collet **G33**

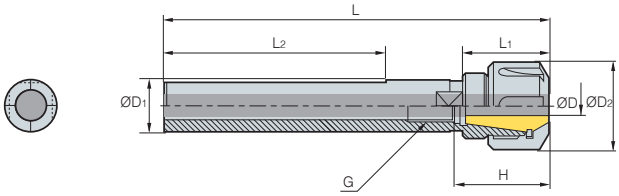
- H: Insertion depth of tool
- Through coolant system is optional
- Collets in the right size are recommended for oil hole type

Parts

Division	For separate purchase
Internal coolant system	

Classification by shank	
HSK50	HSK50A-CNS
HSK63	HSK63A-CNS
HSK100	HSK100A-CNS

S-SDC



(mm)

	Designation	ØD	ØD1	ØD2	L	L1	L2	H	Collet	G	kg
S16 -	SDC7-120M	1.0~7.0	19	16	120	-	-	33	GERC11	M7	0.1
	SDC7-120T	1.0~7.0	19	16	120	-	73	33	GERC11	M7	0.1
	SDC10-150T	1.0~10.0	28	16	150	46.5	83	34.5	GERC16	M10	0.2
S20 -	SDC10-150M	1.0~10.0	28	20	150	26.5	-	34.5	GERC16	M10	0.3
	SDC10-150T	1.0~10.0	28	20	150	26.5	83	34.5	GERC16	M10	0.3
	SDC13-150M	1.0~13.0	35	20	150	50	-	49	GERC20	M13	0.3
	SDC13-150T	1.0~13.0	35	20	150	50	83	49	GERC20	M13	0.3
S25 -	SDC10-150M	1.0~10.0	28	25	150	-	-	34.5	GERC16	M10	0.4
	SDC10-150T	1.0~10.0	28	25	150	-	83	34.5	GERC16	M10	0.4
	SDC13-150M	1.0~13.0	35	25	150	-	-	49	GERC20	M13	0.4
	SDC13-150T	1.0~13.0	35	25	150	-	83	49	GERC20	M13	0.4
S32 -	SDC13-150M	1.0~13.0	35	32	150	-	-	49	GERC20	M13	0.7
	SDC13-150T	1.0~13.0	35	32	150	-	83	49	GERC20	M13	0.7
	SDC20-165M	2.0~20.0	50	32	165	-	-	60	GERC32	M22	0.9
	SDC20-165T	2.0~20.0	50	32	165	-	83	60	GERC32	M22	0.9

Applicable collet **G33**

• H: Insertion depth of tool • Through coolant system is optional

S-SDC/S

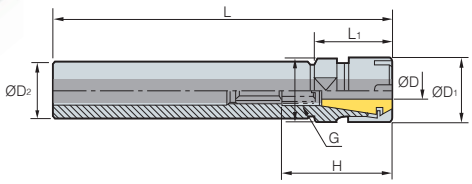


Fig. 1

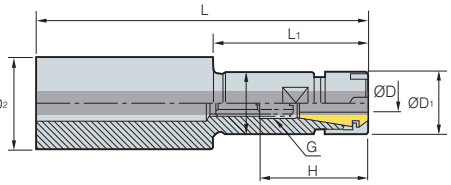


Fig. 2

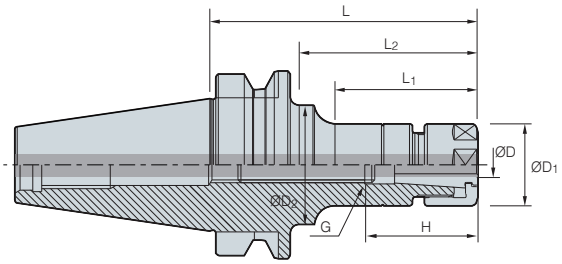
(mm)

Designation		ØD	ØD1	ØD2	L	L1	H	Collet / Step	G	kg
S16 -	SDC7S-100M	1.0~7.0	16	16	100	21	33	GERC11/0.5	M7	0.1
	SDC7S-150M	1.0~7.0	16	16	150	21	33	GERC11/0.5	M7	0.1
	SDC10S-100M	1.0~10.0	22	16	100	50	44.5	GERC16/1.0	M10	0.1
	SDC10S-150M	1.0~10.0	22	16	150	50	44.5	GERC16/1.0	M10	0.1
S20 -	SDC7S-100M	1.0~7.0	16	20	100	30	35	GERC11/0.5	M7	0.1
	SDC7S-150M	1.0~7.0	16	20	150	80	35	GERC11/0.5	M7	0.2
	SDC10S-100M	1.0~10.0	22	20	100	50	44.5	GERC16/1.0	M10	0.1
	SDC10S-150M	1.0~10.0	22	20	150	50	44.5	GERC16/1.0	M10	0.2
	SDC10S-200M	1.0~10.0	22	20	200	50	44.5	GERC16/1.0	M10	0.3
	SDC13S-100M	1.0~13.0	28	20	100	50	49	GERC20/1.0	M13	0.1
	SDC13S-150M	1.0~13.0	28	20	150	50	49	GERC20/1.0	M13	0.2
S25 -	SDC7S-100M	1.0~7.0	16	25	100	30	33	GERC11/0.5	M7	0.2
	SDC7S-150M	1.0~7.0	16	25	150	80	33	GERC11/0.5	M7	0.2
	SDC10S-100M	1.0~10.0	22	25	100	30	44.5	GERC16/1.0	M10	0.2
	SDC10S-150M	1.0~10.0	22	25	150	80	44.5	GERC16/1.0	M10	0.3
	SDC13S-100M	1.0~13.0	28	25	100	50	49	GERC20/1.0	M13	0.2
	SDC13S-150M	1.0~13.0	28	25	150	50	49	GERC20/1.0	M13	0.4
	SDC16S-100M	1.0~16.0	35	25	100	50	50	GERC25/1.0	M18	0.3
	SDC16S-150M	1.0~16.0	35	25	150	50	50	GERC25/1.0	M18	0.4
	SDC16S-200M	1.0~16.0	35	25	200	50	50	GERC25/1.0	M18	0.6
S32 -	SDC16S-120M	1.0~16.0	35	32	120	50	50	GERC25/1.0	M18	0.5
	SDC16S-150M	1.0~16.0	35	32	150	50	50	GERC25/1.0	M18	0.6

Applicable collet **G33**

• H: Insertion depth of tool • Through coolant system is optional

BT-DSK



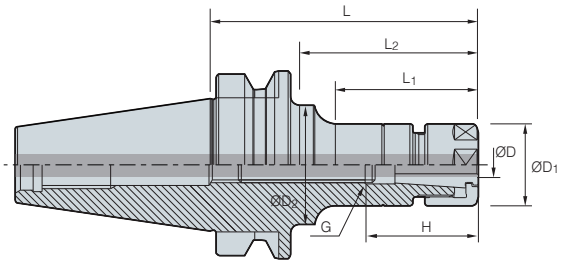
(mm)

Designation		ØD	ØD1	ØD2	L	L1	L2	H	Collet	G	RPM	kg
BT30 -	DSK6-60	3.0~6.0	19.5	19.5	60	33	33	31	HC6	M8	15,000	0.4
	DSK6-90	3.0~6.0	19.5	32	90	56	65	31	HC6	M8	15,000	0.5
	DSK10-60	2.0~10.0	27.5	27.5	60	35	35	38	HC10	M12	15,000	0.5
	DSK10-90	2.0~10.0	27.5	27.5	90	65	65	38	HC10	M12	15,000	0.6
	DSK13-60	3.0~13.0	33	33	60	36	36	43	HC13	M12	15,000	0.5
	DSK16-60	3.0~16.0	40	40	60	37	37	52	HC16	M12	15,000	0.6
	DSK16-90	3.0~16.0	40	40	90	67	67	52	HC16	M18	15,000	0.8
	DSK25-90	16.0~25.0	55	55	90	67.5	67.5	63.5	HC25	M12	15,000	0.9
BT40 -	DSK6-90	3.0~6.0	19.5	32	90	51	61	31	HC6	M8	10,000	1.1
	DSK6-120	3.0~6.0	19.5	32	120	60	90	31	HC6	M8	10,000	1.1
	DSK6-150	3.0~6.0	19.5	25	150	60	120	31	HC6	M8	10,000	1.1
	DSK10-90	2.0~10.0	27.5	40	90	48	60	38	HC10	M12	10,000	1.2
	DSK10-120	2.0~10.0	27.5	40	120	73	90	38	HC10	M12	10,000	1.2
	DSK10-150	2.0~10.0	27.5	34.5	150	73	118	38	HC10	M12	10,000	1.4
	DSK13-90	3.0~13.0	33	33	90	59	59	43	HC13	M15	10,000	1.3
	DSK16-90	3.0~16.0	40	40	90	58	58	52	HC16	M18	10,000	1.3
	DSK16-120	3.0~16.0	40	40	120	88	88	52	HC16	M18	10,000	1.5
	DSK16-150	3.0~16.0	40	40	150	118	118	52	HC16	M18	10,000	1.9
	DSK20-90	4.0~20.0	48.5	48.5	90	60	60	60	HC20	M22	10,000	1.5
	DSK20-120	4.0~20.0	48.5	48.5	120	90	90	60	HC20	M22	10,000	1.8
	DSK25-90	16.0~25.0	55	55	90	61	61	63.5	HC25	M28	10,000	1.6
	DSK25-120	16.0~25.0	55	55	120	91	91	85	HC25	M28	10,000	2.0

Spare Part G31 Applicable collet G33

- H: Insertion depth of tool
- Through coolant system is optional
- Coolant collets are recommended when using the coolant system

BT-DSK



(mm)

Designation		ØD	ØD1	ØD2	L	L1	L2	H	Collet	G	RPM	kg
BT50 -	DSK6-105	3.0~6.0	19.5	32	105	55	64	31	HC6	M8	8,000	3.6
	DSK6-135	3.0~6.0	19.5	32	135	60	92	31	HC6	M8	8,000	3.7
	DSK6-165	3.0~6.0	19.5	32	165	60	114	31	HC6	M8	8,000	4.1
	DSK10-105	2.0~10.0	27.5	27.5	105	57	57	38	HC10	M12	8,000	3.8
	DSK10-135	2.0~10.0	27.5	32	135	70	92	38	HC10	M12	8,000	3.9
	DSK10-165	2.0~10.0	27.5	36	165	75	114	38	HC10	M12	8,000	4.1
	DSK13-135	3.0~13.0	33	33	135	92	92	43	HC13	M15	8,000	3.8
	DSK16-105	3.0~16.0	40	40	105	62	62	52	HC16	M18	8,000	4.0
	DSK16-135	3.0~16.0	40	40	135	92	92	52	HC16	M18	8,000	4.2
	DSK16-165	3.0~16.0	40	50	165	40	122	52	HC16	M18	8,000	4.6
	DSK20-105	4.0~20.0	48	40	105	62	62	60	HC20	M22	8,000	4.2
	DSK20-135	4.0~20.0	48	40	135	92	92	60	HC20	M22	8,000	4.5
	DSK20-165	4.0~20.0	48	40	165	122	122	60	HC20	M22	8,000	4.9
	DSK25-105	16.0~25.0	55	55	105	62	62	63.5	HC25	M28	8,000	4.4
	DSK25-135	16.0~25.0	55	55	135	92	92	63.5	HC25	M28	8,000	4.5
	DSK25-165	16.0~25.0	55	55	165	122	122	63.5	HC25	M28	8,000	5.2

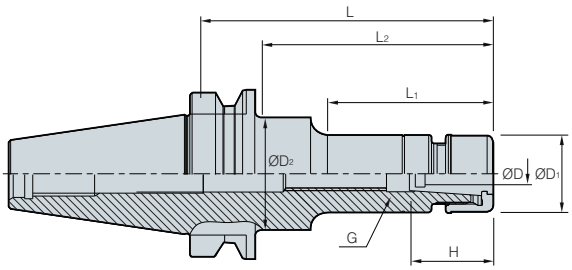
Applicable collet **G33**

- H: Insertion depth of tool
- Through coolant system is optional
- Coolant collets are recommended when using the coolant system

Parts

Basic				For separate purchase
Division	Nut	Adjust screw	Extractor	Spanner
Parts / Designation				
DSK6	DN6	BN0825F	DSK-6CE	DSS-6
DSK10	DN10	BN1225F	DSK-10CE	DSS-10
DSK13	DN13	BN1230 (BT30)/BN1524F (Others)	DSK-13CE	DSS-13
DSK16	DN16	BN1830F	DSK-16CE	DSS-16
DSK20	DN20	BN2230F	DSK-20CE	DSS-20
DSK25	DN25	BN2838F	DSK-25CE	DSS-25

BT-GSK



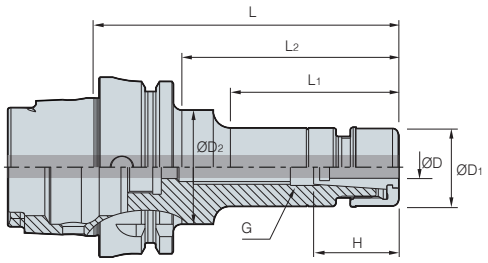
(mm)

Designation		ØD	ØD1	ØD2	L	L1	L2	H	Collet / Step	G	RPM	kg
BT30 -	GSK6-60	3.0~6.0	19.5	19.5	60	33	33	31	HC6/1.0	M8	25,000	0.4
	GSK6-90	3.0~6.0	19.5	32	90	56	65	31	HC6/1.0	M8	25,000	0.5
	GSK10-60	2.0~10.0	27	27	60	35	35	38	HC10/1.0	M12	25,000	0.5
	GSK10-90	2.0~10.0	27	27	90	65	65	38	HC10/1.0	M12	25,000	0.6
	GSK13-60	3.0~13.0	35	35	60	36	36	43	HC13/1.0	M12	25,000	0.6
	GSK16-60	3.0~16.0	40	40	60	37	37	52	HC16/1.0	M12	25,000	0.6
	GSK16-90	3.0~16.0	40	40	90	67	67	52	HC16/1.0	M18	25,000	0.8
	GSK25-90	16.0~25.0	55	55	90	67.5	67.5	63.5	HC25/1.0	M12	25,000	1.0
BT40 -	GSK6-90	3.0~6.0	19.5	32	90	51	61	31	HC6/1.0	M8	20,000	1.0
	GSK6-120	3.0~6.0	19.5	32	120	60	90	31	HC6/1.0	M8	20,000	1.2
	GSK6-150	3.0~6.0	19.5	25	150	60	120	31	HC6/1.0	M8	20,000	1.2
	GSK10-90	2.0~10.0	27	40	90	48	60	38	HC10/1.0	M12	20,000	1.1
	GSK10-120	2.0~10.0	27	40	120	73	90	38	HC10/1.0	M12	20,000	1.3
	GSK10-150	2.0~10.0	27	34.5	150	73	118	38	HC10/1.0	M12	20,000	1.4
	GSK13-90	3.0~13.0	35	35	90	59	59	43	HC13/1.0	M15	20,000	1.2
	GSK16-90	3.0~16.0	40	40	90	58	58	52	HC16/1.0	M18	20,000	1.3
	GSK16-120	3.0~16.0	40	40	120	88	88	52	HC16/1.0	M18	20,000	1.5
	GSK16-150	3.0~16.0	40	40	150	118	118	52	HC16/1.0	M18	20,000	1.8
	GSK20-90	4.0~20.0	48	48	90	60	60	60	HC20/1.0	M22	20,000	1.4
	GSK20-120	4.0~20.0	48	48	120	90	90	60	HC20/1.0	M22	20,000	1.8
	GSK25-90	16.0~25.0	55	55	90	61	61	63.5	HC25/1.0	M28	20,000	1.6
	GSK25-120	16.0~25.0	55	55	120	91	91	63.5	HC25/1.0	M28	20,000	2.0
BT50 -	GSK6-105	3.0~6.0	19.5	32	105	55	64	31	HC6	M8	15,000	3.6
	GSK6-135	3.0~6.0	19.5	32	135	60	92	31	HC6	M8	15,000	3.6
	GSK6-165	3.0~6.0	19.5	32	165	60	114	31	HC6	M8	15,000	3.9
	GSK10-105	2.0~10.0	27	27	105	57	57	38	HC10	M12	15,000	3.7
	GSK10-135	2.0~10.0	27	32	135	70	92	38	HC10	M12	15,000	3.7
	GSK10-165	2.0~10.0	27	36	165	75	114	38	HC10	M12	15,000	4.0
	GSK13-135	3.0~13.0	35	35	135	92	92	43	HC13	M15	15,000	3.9
	GSK16-105	3.0~16.0	40	40	105	62	62	52	HC16	M18	15,000	3.9
	GSK16-135	3.0~16.0	40	40	135	92	92	52	HC16	M18	15,000	4.1
	GSK16-165	3.0~16.0	40	50	165	40	122	52	HC16	M18	15,000	4.3
	GSK20-105	4.0~20.0	48	-	105	62	62	60	HC20	M22	15,000	4.1
	GSK20-135	4.0~20.0	48	-	135	92	92	60	HC20	M22	15,000	4.4
	GSK20-165	4.0~20.0	48	-	165	122	122	60	HC20	M22	15,000	4.9
	GSK25-105	16.0~25.0	55	55	105	62	62	63.5	HC25	M28	15,000	4.2
	GSK25-135	16.0~25.0	55	55	135	92	92	63.5	HC25	M28	15,000	4.6
	GSK25-165	16.0~25.0	55	55	165	122	122	63.5	HC25	M28	15,000	5.1

Spare Part G33 Applicable collet G33

- H: Insertion depth of tool
- Through coolant system is optional
- Coolant collets are recommended when using the coolant system

HSK-GSK



(mm)

Designation		ØD	ØD1	ØD2	L	L1	L2	H	Collet / Step	G	RPM	kg
HSK63A -	GSK6-100	3.0~6.0	19.5	32	100	51	61	35	HC6/0.5	M8	20,000	0.8
	GSK10-105	2.0~10.0	27	34.5	105	73	118	50	HC10/0.5	M12	20,000	0.9
	GSK16-120	3.0~16.0	40	40	120	58	58	60	HC16/0.5	M18	20,000	1.3
	GSK20-120	4.0~20.0	48	48	120	60	60	70	HC20/0.5	M22	20,000	1.6
HSK100A -	GSK6-120	3.0~6.0	19.5	32	120	55	64	35	HC6/0.5	M8	15,000	2.2
	GSK10-120	2.0~10.0	27	27	120	57	57	50	HC10/0.5	M12	15,000	2.3
	GSK16-140	3.0~16.0	40	40	140	62	62	60	HC16/0.5	M18	15,000	2.8
	GSK25-155	16.0~25.0	55	55	155	62	62	85	HC25/0.5	M28	15,000	3.6

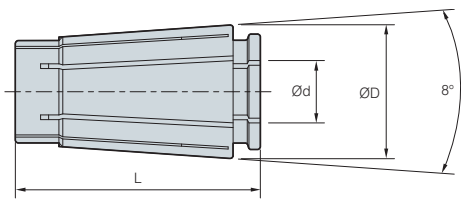
• H: Insertion depth of tool

Parts

	Basic			For separate purchase
Division	Nut	Adjust screw	Extractor	Spanner
Parts / Designation				
GSK6	GN6	M820C	DSK-6CE	GSK-6
GSK10	GN10	M1230C	DSK-10CE	GSK-10
GSK13	GN13	BN1530F	DSK-13CE	GSK-13
GSK16	GN16	BN1830F	DSK-16CE	GSK-16
GSK20	GN20	BN2230F	DSK-20CE	GSK-20
GSK25	GN25	BN2838F	DSK-25CE	GSK-25

HC Slim Collet

General & precision type



(mm)

Designation		ØD	L	Ød (Max.)	Distance (mm)	Tolerance	
						Standard type	Precision type (P)
HC6 -	Ød(P)	10.5	25.0	6.0	1.0	5 ㎛	3 ㎛
HC10 -	Ød(P)	15.6	30.5	10.0	1.0		
HC13 -	Ød(P)	20.1	39.0	13.0	1.0		
HC16 -	Ød(P)	24.6	45.0	16.0	1.0		
HC20 -	Ød(P)	29.2	54.3	20.0	2.0		
HC25 -	Ød(P)	35.7	57.0	25.0	1.0		

GERC Collet

GERC new

- Corrosion resistant collet to micro unit
- High tech coating for long lasting precision
- Longer tool life and higher productivity

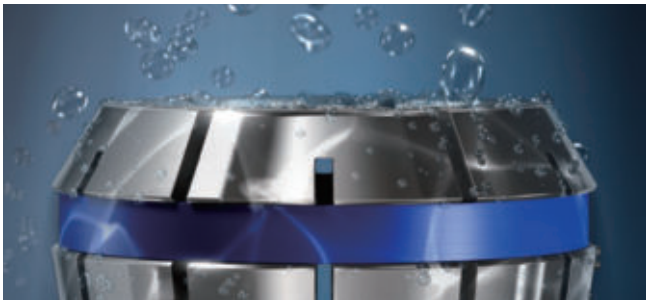
Code system

GERC - 16 4.0 - HP

- **GERC** — Spindle GER Collet
- **16** — Clamping range
- **4.0** — Tool Dia.
- **HP** — HP: Precision; None: General

Special coating technology

Unlike GERC collets, Conventional non-coated collets have the following features:
Non-coated collets are affected by corrosion due to high humidity, cutting fluid, cleaner, salt, gas and many other factors, which in result deteriorates whole quality of machining



When a collet gets rusty, the tool life is shortened and precision considerably decreases. To prevent this problem, surface treatment by micro unit was applied to GERC collets for effective protection and long lasting precision

GERC

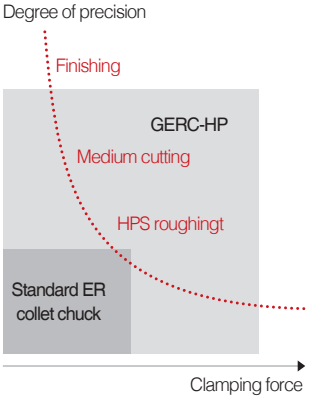
Competitor

Two samples of collets after 4 months of use:
Left: GERC collet, Right: Non-coated

GERC-HP

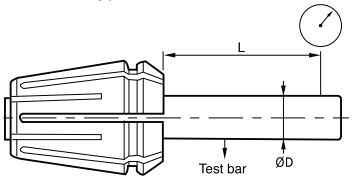
A precision type collet chuck is expensive than standard one, but still it has more advantages in long term cost and efficiency. Using GERC-HP can minimize pricy reworking due to smaller tolerance with maximum precision

Precision type collet 2 ㎛



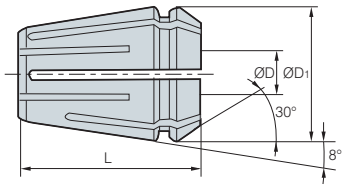
Precision (L/D = 3)

Standard type = 5 ㎛
Precision type = 2 ㎛



GERC Collet

General/Precision/Water proof type



(mm)

Designation	ER size	ØD (Max.)	ØD1	L	Min. pi of water proof type	Distance (mm)	Tolerance	
							Standard type	Precision type (HP)
GER11-Ød(HP)	11	7.0	11.5	18.0	-	0.5	5 μm	2 μm
GER16-Ød(HP, C)	16	10.0	17.0	27.5	5.0	1.0		
GER20-Ød(HP, C)	20	13.0	21.0	31.5	6.0	1.0		
GER25-Ød(HP, C)	25	16.0	26.0	34.0	6.0	1.0		
GER32-Ød(HP, C)	32	20.0	33.0	40.0	8.0	1.0		
GER40-Ød	40	26.0	41.0	46.0	10.0	1.0		

GERC Collet

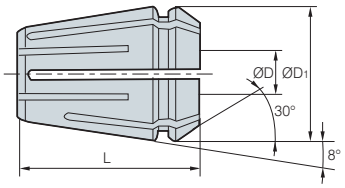
General type

(mm)

Designation	ØD	Distance	Collet amount	Tolerance	kg
GERC11 1.0-7.0 mm/0.5 mm	1.0-7.0	0.5	13 pcs	5 μm	0.1
GERC16 1.0-10.0 mm/1.0 mm	1.0-10.0	1.0	10 pcs	5 μm	0.2
GERC20 2.0-13.0 mm/1.0 mm	2.0-13.0	1.0	12 pcs	5 μm	0.5
GERC25 2.0-16.0 mm/1.0 mm	2.0-16.0	1.0	15 pcs	5 μm	1.1
GERC32 3.0-20.0 mm/1.0 mm	3.0-20.0	1.0	18 pcs	5 μm	2.6
GERC40 4.0-26.0 mm/1.0 mm	4.0-26.0	1.0	23 pcs	5 μm	5.8

ER Collet

General/Water proof type



(mm)

Designation	ER size	ØD (Max.)	ØD1	L	Min. pi of water proof type	Distance (mm)	Tolerance
ER11-Ød	11	7.0	11.5	18.0	-	0.5	10 ㎛
ER16-Ød(C)	16	10.0	17.0	27.5	5.0	1.0	
ER20-Ød(C)	20	13.0	21.0	31.5	6.0	1.0	
ER25-Ød(C)	25	16.0	26.0	34.0	6.0	1.0	
ER32-Ød(C)	32	20.0	33.0	40.0	8.0	1.0	

ER Collet

General type

(mm)

Designation	ØD	Distance	Collet amount	Tolerance
ER11(SET)	1.0-7.0	0.5	12 pcs	10 ㎛
ER16(SET)	1.0-10.0	1.0	10 pcs	10 ㎛
ER20(SET)	2.0-13.0	1.0	12 pcs	10 ㎛
ER25(SET)	2.0-16.0	1.0	15 pcs	10 ㎛
ER32(SET)	3.0-20.0	1.0	18 pcs	10 ㎛

Lock collet for ER collet chuck

ER/L

- Designed to prevent the end mill from falling out
- Prevents tool fallout, slipping, or idle running
- Uses the Weldon flat (DIN 6535HB) end mill without any special endmill
- Useful for machining large-sized mold or difficult-to-cut materials

Structural Features

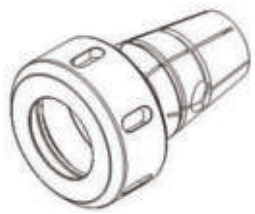
Designed to prevent fallout

- Tool fallout is prevented by a key inserted in the collet
- A key is inserted to prevent the tool from falling out

How to use

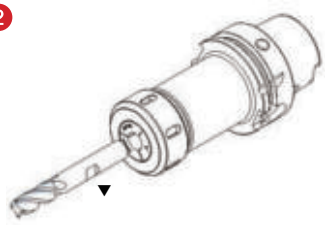
- Assemble the collet with nut (same for general ER collet in use)
- Assemble the end tool (in the direction of assembling notch with key)
- Tighten the nut with the body

❶



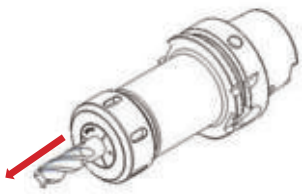
Combine the non-slip ER collet with nut

❷



Clamp the nut after inserting no. ❶into the collet chuck. After that, insert the end mill notch to be aligned with the part ▼ (steel ball position)

❸

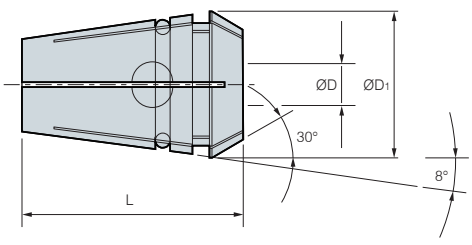


After checking that the steel ball in the collet is caught in the notched part, completely clamp the nut by pulling the end mill in the axial direction (arrow direction)

Note If an auto clamp device is used, skip step❸ (Endmill rotation may cause injury)

ER/L Collet

Non-slip collet chuck collet



(mm)

Designation	ØD	ØD	ØD1	L
ER20-6L	20	6	20.7	31.5
ER20-8L	20	8	20.7	31.5
ER20-10L	20	10	20.7	31.5
ER20-12L	20	12	20.7	31.5
ER32-12L	32	12	32.7	40
ER32-16L	32	16	32.7	40
ER32-20L	32	20	32.7	40

Jet coolant disk

RTJW

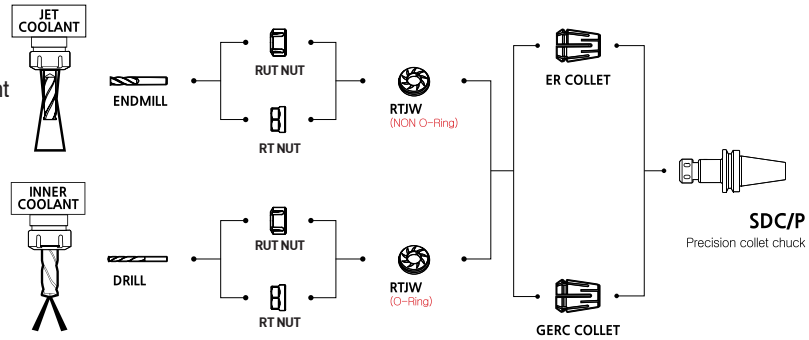
- Provides a longer cutting tool service life by preventing chips from adhering to the tool
- Improveds chip breakability/breaking strong jet injection
- Reduces equipment non-operation time as nozzle position change is not necessary

Code system

RTJW	16	-	6
Jet Coolant Disk	ER Collet Size		Tool Dia.

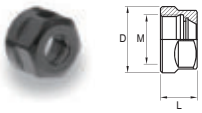
Application

- With one waterproof type (RT, RUT) NUT, the inside jet coolant is simultaneously used
- Enables a fast change of the inside jet coolant only by disk replacement
- Strong jet injection with no scattering even in the high-speed rotation



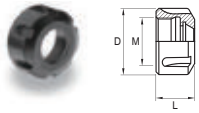
RT NUT

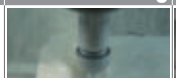
Type	M	D	L
RT16	M22x1.50	28.0	22.5



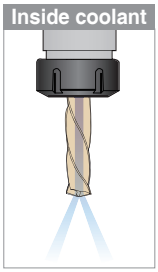
RUT NUT

Type	M	D	L
RUT20	M25x1.50	35.0	24.0
RUT25	M32x1.50	42.0	25.0
RUT32	M40x1.50	50.0	27.5
RUT40	M50x1.50	63.0	30.5

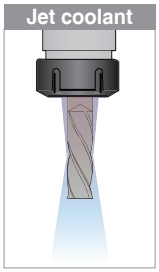


	Pocket machining	After	Remarks
Jet coolant			▶ The chips in the pocket completely are removed by a strong jet injection
Outside coolant			▶ The chips in the pocket are not removed ▶ Chips are accumulated in the collet and nut

Inside coolant

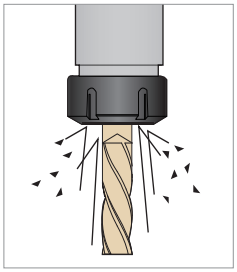


Jet coolant



Coolant method

According to use, inside coolant and jet coolant refueling can be used



Mixing prevention

Effective for vibration proof by preventing mixing of cutting chips by using RTJW

RTJW

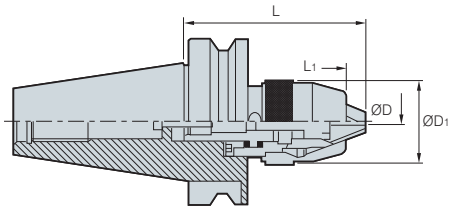
(mm)

Designation		ER size	Inner diameter	Designation		ER size	Inner diameter
RTJW16 -	RTJW16-6	16	6	RTJW32 -	RTJW32-6	32	6
	RTJW16-7	16	7		RTJW32-7	32	7
	RTJW16-8	16	8		RTJW32-8	32	8
RTJW20 -	RTJW20-6	20	6		RTJW32-9	32	9
	RTJW20-7	20	7		RTJW32-10	32	10
	RTJW20-8	20	8		RTJW32-11	32	11
	RTJW20-9	20	9		RTJW32-12	32	12
	RTJW20-10	20	10		RTJW32-13	32	13
RTJW25 -	RTJW25-6	25	6		RTJW32-14	32	14
	RTJW25-7	25	7		RTJW32-15	32	15
	RTJW25-8	25	8		RTJW32-16	32	16
	RTJW25-9	25	9		RTJW32-17	32	17
	RTJW25-10	25	10		RTJW32-18	32	18
	RTJW25-11	25	11		RTJW32-20	32	20
	RTJW25-12	25	12	RTJW40 -	RTJW40-18	40	18
	RTJW25-13	25	13		RTJW40-19	40	19
	RTJW25-14	25	14		RTJW40-20	40	20
	RTJW25-15	25	15		RTJW40-21	40	21
	RTJW25-16	25	16		RTJW40-22	40	22
					RTJW40-24	40	24

Clamping items: **G25~G27**

• Less than Ø5 cannot be used for production

BT-NPU

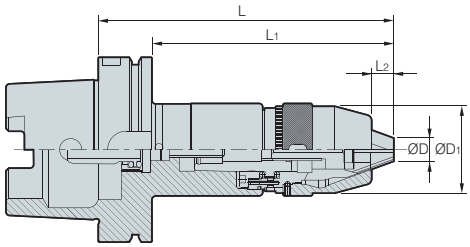


(mm)

Designation		ØD	ØD1	L	L1	kg
BT30 -	NPU8-97	1~ 8	38	97	8.5	0.8
	NPU13-125	1~13	50	125	12.5	1.4
BT40 -	NPU8-87	1~ 8	38	87	8.5	1.2
	NPU13-105	1~13	50	105	12.5	1.6
	NPU13-130	1~13	50	130	12.5	1.9
BT50 -	NPU13-130	1~13	50	130	12.5	4.5
	NPU13-190	1~13	50	190	12.5	5.3

• Through coolant system not available

HSK-NPU



(mm)

Designation		ØD	ØD1	L	L1	L2	kg
HSK63A -	NPU13-175	1~13	50	175	149	12.5	2.4
HSK100A -	NPU13-180	1~13	50	180	151	12.5	3.6

• Through coolant system not available

Parts

Basic			For separate purchase
Division	Chuck	Bolt	Spanner
Parts / Designation			
NPU8	NPU08	BX0620	NPU0836
NPU13	NPU13	BX0825	NPU1348

High speed synchro tapping chuck

DST new

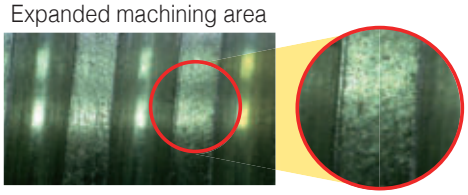
- Tapping chuck for high speed machining
- Specially designed structure for absorbing thrust load and preventing damage on the tap
- Through coolant system available
- Applicable range: M1~M22

Code system

BT40	-	DST	22	-	100
Spindle		Tapping holder	Max. Chucking dia.		Length

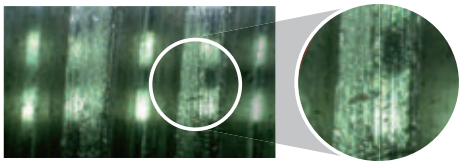
Excellent performance, precise machining

Expanded machining area



DST22
(vc = 100 m/min)

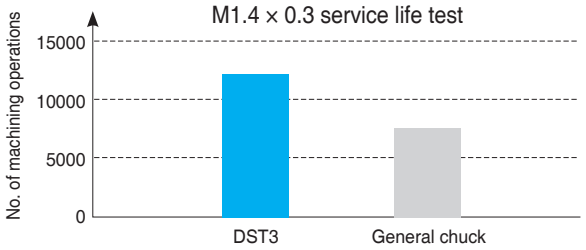
Excellent cutting face



Conventional one

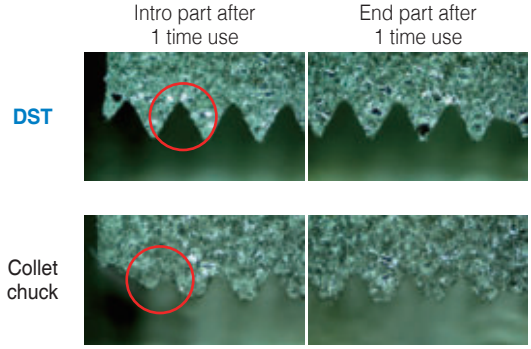
Exclusive collet for tapping

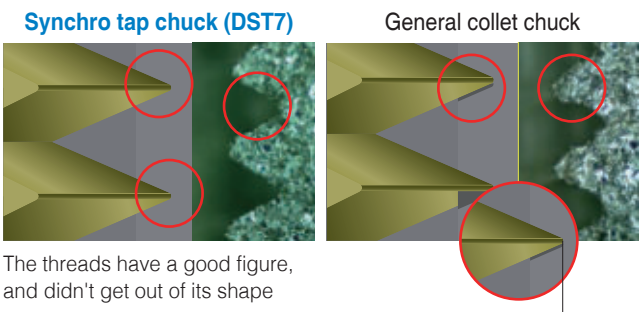
- At tapping work use of TER collet
- DST3: Use of ER11 collet



Increased tool service life versus collet chuck use

Comparison of thread figures

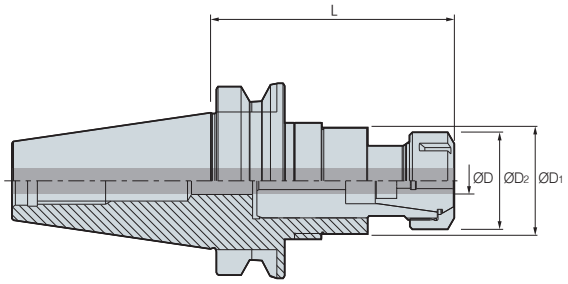




The threads have a good figure, and didn't get out of its shape

The thread is out of its shape due to synchronization error

BT-DST



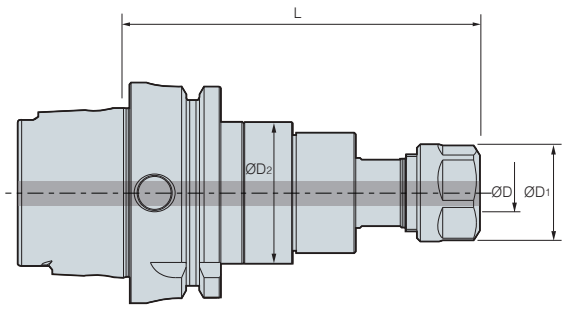
(mm)

Designation		ØD	ØD1	ØD2	L	Collet	F-	F +	kg
BT30 -	DST3-70	M1~M3	20	19	70	ER11	0.5	0.5	0.5
	DST10-100	M3~M10	40.4	28	100	TER16	0.5	0.5	0.8
BT40 -	DST3-70	M1~M3	20	19	70	ER11	0.5	0.5	1.0
	DST10-100	M3~M10	40.4	28	100	TER16	0.5	0.5	1.3
	DST22-110	M6~M22	60	49.5	110	TER32	0.7	0.7	1.7
BT50 -	DST10-110	M3~M10	60	49.5	110	TER16	0.5	0.5	3.8
	DST22-130	M6~M22	60	49.5	130	TER32	0.7	0.7	4.5

Applicable collet **G36, G43**

• Through coolant system is optional

HSK-DST



(mm)

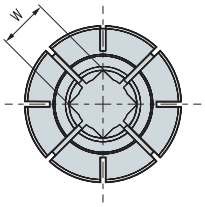
Designation		ØD	ØD1	ØD2	L	Collet	F-	F +	kg
HSK63A -	DST3-80	M1~M3	19	20	80	ER11	0.5	0.5	0.7
	DST10-100	M3~M10	28	40.4	100	TER16	0.5	0.5	0.9
	DST22 130	M6~M22	49.5	60	130	TER32	0.7	0.7	1.8

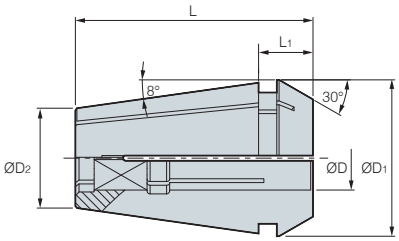
Applicable collet **G36, G43**

• Through coolant system is optional

TER

Tap Collet





(mm)

Designation		Tapping Range	ØD	ØD1	ØD2	L	L1	W	kg
TER16 -	**4x3.2**	M3	4	16.74	10.1	27.5	6.3	3.2	0.03
	5x4	M4	5	16.74	10.1	27.5	6.3	4	0.03
	5.5x4.5	M5	5.5	16.74	10.1	27.5	6.3	4.5	0.02
	6x4.5	M6,U1/4	6	16.74	10.1	27.5	6.3	4.5	0.02
	6.2x5	M7, M8	6.2	16.74	10.1	27.5	6.3	5	0.02
	7x5.5	M9, M10, U3/8	7	16.74	10.1	27.5	6.3	5.5	0.02
TER20 -	**5x4**	M4	5	20.74	13.2	31.5	7.2	4	0.05
	5.5x4.5	M5	5.5	20.74	13.2	31.5	7.2	4.5	0.05
	6x4.5	M6,U1/4	6	20.74	13.2	31.5	7.2	4.5	0.05
	6.2x5	M7, M8	6.2	20.74	13.2	31.5	7.2	5	0.04
	7x5.5	M9, M10, U3/8	7	20.74	13.2	31.5	7.2	5.5	0.05
	8x6	M11, U7/16, P1/8	8	20.74	-	-	-	6	0.04
	8.5x6.5	M12	8.5	20.74	13.2	31.5	7.2	6.5	0.04
TER25 -	**5x4**	M4	5	25.74	17.6	34	7.5	4	0.9
	5.5x4.5	M5	5.5	25.74	17.6	34	7.5	4.5	0.8
	6x4.5	M6	6	25.74	17.6	34	7.5	4.5	0.8
	6.2x5	M7, M8	6.2	25.74	17.6	34	7.5	5	0.1
	7x5.5	M9, M10, U3/8	7	25.74	17.6	34	7.5	5.5	0.8
	8.5x6.5	M12	8.5	25.74	17.6	34	7.5	6.5	0.8
TER32 -	**6x4.5**	M6,U1/4	6	32.74	23.1	40	8.2	4.5	0.2
	6.2x5	M7, M8	6.2	32.74	23.1	40	8.2	5	0.2
	7x5.5	M9, M10, U3/8	7	32.74	23.1	40	8.2	5.5	0.2
	8X6	M11, U7/16, P1/8	8	32.74	23.1	40	8.2	6	0.2
	8.5x6.5	M12	8.5	32.74	23.1	40	8.2	6.5	0.2
	10.5x8	M14, U9/16	10.5	32.74	23.1	40	8.2	8	0.2
	12.5x10	M16	12.5	32.74	23.1	40	8.2	10	0.2
	14x11	M18, P3/8	14	32.74	23.1	40	8.2	11	0.1
	15x12	M20	15	32.74	23.1	40	8.2	12	0.1
	17x13	M22, U7/8	17	32.74	23.1	40	8.2	13	0.1
	11x9	P1/4	11	32.74	23.1	40	8.2	9	0.2
	12x9	U5/8	12	32.74	23.1	40	8.2	9	0.2
	9x7	U1/2	9	32.74	23.1	40	8.2	7	0.2

• Water proof tapping is possible with the use of RTJW and nuts (limited to the right sizes)

Tapping holder

DTN

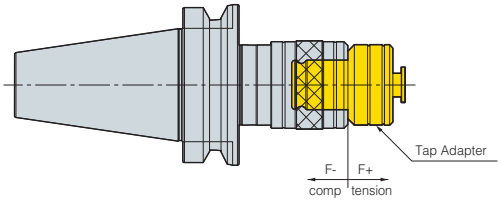
- Compact design and slim type
- Improvement of tapping force
- Tapping range: M3~M38

Code system

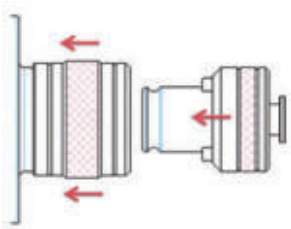
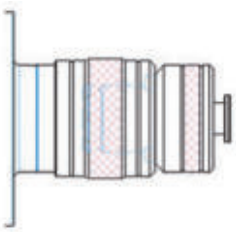
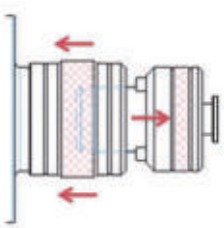
BT40	-	DTN	22	-	130
Spindle		Tapping holder	Max. chucking dia.		Length

Easy exchange of TCA (Tap adaptor)

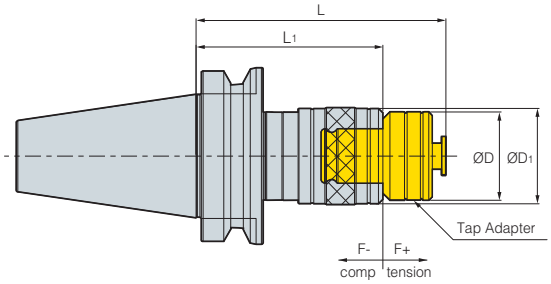
Convenient one-touch exchange type for high precision and longer tool life
Contraction of length is possible by axial floating way



How to clamp TCA and a tap holder

Before installation	After installation	Disassembly
		
1. Insert TCA pushing the cover of tap holder 2. Clamp the TCA in the Key groove and firmly	1. The cover of tap holder is placed correctly	1. Seaparate the TCA pushing the cover of tap holder

BT-DTN



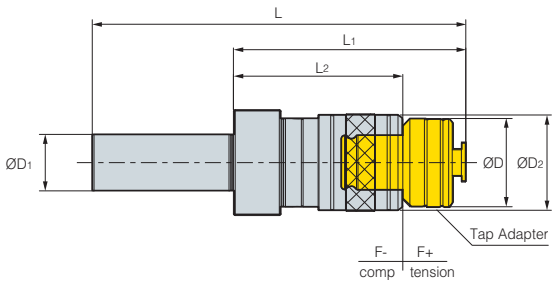
(mm)

Designation		Tapping range	ØD	ØD1	L	L1	Adaptor	F-	F +	kg
BT30 -	DTN12-85	M3~M12	32	39	85	60	TCA1-M	4	10	0.5
BT40 -	DTN12-90	M3~M12	32	39	90	65	TCA1-M	4	10	1.2
	DTN12-120	M3~M12	32	39	120	95	TCA1-M	4	10	1.5
	DTN22-130	M8~M24	50	56	130	96	TCA2-M	12.5	12.5	1.7
	DTN22-160	M8~M24	50	56	160	126	TCA2-M	12.5	12.5	2.2
BT50 -	DTN12-100	M3~M12	32	39	100	75	TCA1-M	4	10	3.9
	DTN12-130	M3~M12	32	39	130	105	TCA1-M	4	10	3.9
	DTN22-140	M8~M24	50	56	140	106	TCA2-M	12.5	12.5	4.3
	DTN22-170	M8~M24	50	56	170	136	TCA2-M	12.5	12.5	4.7
	DTN38-185	M16~M38	72	81	185	140	TCA3-M	20	20	5.7
	DTN38-215	M16~M38	72	81	215	170	TCA3-M	20	20	6.7

Tap Adapter (TCA) **G46**

• Through coolant system not available

S-DTN



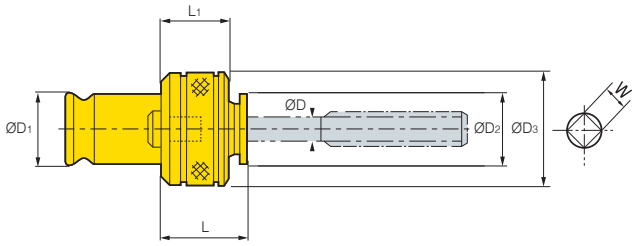
(mm)

Designation		Tapping range	ØD	ØD1	ØD2	L	L1	L2	F-	F +	Adaptor	kg
S32 -	DTN12-90	M3-M12	32	32	39	170	90	65	4	10	TCA1	1.0
	DTN22-130	M8-M24	32	50	56	210	130	96	12.5	12.5	TCA2	1.8

Tap Adapter (TCA) **G46**

• Through coolant system not available

TCA Tap Adaptor

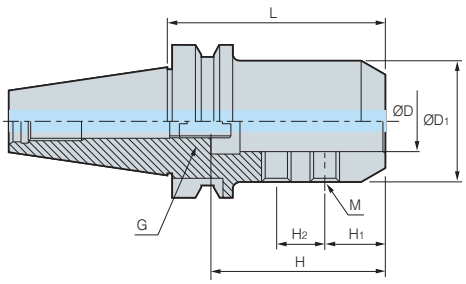


(mm)

Designation		ØD	ØD1	ØD2	ØD3	L	L1	W	kg
TCA1 -	M3	4	19	18.5	32	26.5	24.5	3.2	0.2
	M4	5	19	18.5	32	26.5	24.5	4	0.2
	M5	5.5	19	18.5	32	26.5	24.5	4	0.2
	M6	6	19	18.5	32	26.5	24.5	4	0.2
	M8	6.2	19	18.5	32	26.5	24.5	5	0.2
	M10	7	19	18.5	32	26.5	24.5	5.5	0.2
	M11	8	19	18.5	32	26.5	24.5	6	0.2
	M12	8.5	19	18.5	32	26.5	24.5	6.5	0.2
TCA2 -	M8	6.2	31	29	50	34	30.5	5	0.5
	M10	7	31	29	50	34	30.5	5.5	0.5
	M12	8.5	31	29	50	34	30.5	6.5	0.5
	M14	10.5	31	29	50	34	30.5	8	0.5
	P(=1/4)	11	31	29	50	34	30.5	9	0.5
	M16	12.5	31	29	50	34	30.5	10	0.5
	M18	14	31	29	50	34	30.5	11	0.5
	M20	15	31	29	50	34	30.5	12	0.5
	M22	17	31	29	50	34	30.5	13	0.5
	P1/2	18	31	29	50	34	30.5	14	0.5
	M24	19	31	29	50	34	30.5	15	0.5
TCA3 -	M16	12.5	48	46	72	45	41	10	1.4
	M18	14	48	46	72	45	41	11	1.4
	M20	15	48	46	72	45	41	12	1.4
	M22	17	48	46	72	45	41	13	1.4
	M24	19	48	46	72	45	41	15	1.4
	M27	20	48	46	72	45	41	15	1.4
	M30	23	48	46	72	45	41	17	1.4
	M33	25	48	46	72	45	41	19	1.4
	M36	28	48	46	72	45	41	21	1.4

• Through coolant system not available

BT-SLA



(mm)

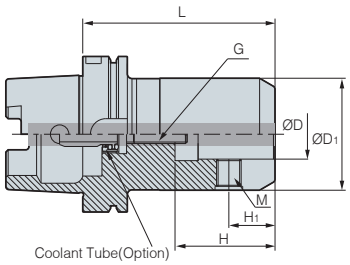
Designation		ØD	ØD1	L	H	H1	H2	M	G	kg
BT30 -	SLA16-90	16	40	90	72	25	20	M10	M12	0.9
	SLA20-90	20	50	90	72	25	20	M12	M12	1.2
	SLA25-90	25	50	90	72	25	20	M12	M12	1.1
BT40 -	SLA16-90	16	40	90	72	25	20	M10	M12	1.4
	SLA20-90	20	50	90	72	25	20	M12	M12	1.8
	SLA25-90	25	50	90	72	25	20	M12	M12	1.6
	SLA32-90	32	60	90	82	25	25	M14	M12	1.8
	SLA32-105	32	60	105	82	25	25	M14	M12	2.0
	SLA40-105	40	80	105	82	25	25	M16	M12	2.9
BT50 -	SLA20-105	20	50	105	72	25	20	M12	M12	4.4
	SLA25-105	25	50	105	72	25	20	M12	M12	4.3
	SLA32-105	32	60	105	82	25	25	M14	M12	4.5
	SLA40-105	40	90	105	82	25	20	M16	M12	6.1
	SLA42-105	42	90	105	80	25	25	M16	M12	5.9

• H: Insertion depth of tool • Through coolant system installed

Parts

Division	Basic			For separate purchase	
	Set screw		Adjust screw	Wrench	
Parts / Designation					
	BT type	HSK type		BT type	HSK type
SLA16	BTF1010	BTF1414-1.5	M1230C	LW-5	LW-6
SLA20	BTF1212-1.5	BTF1616-1.5		LW-6	LW-8
SLA25	BTF1212-1.5	BTF1818-1.5		LW-6	LW-8
SLA32	BTF1414-1.5	BTF2020-1.5		LW-6	LW-10
SLA40	BTF1624-1.5	BTF2020-1.5		LW-8	LW-10
SLA42	BTF1624-1.5	BTF2020-1.5		LW-8	LW-10

HSK-SLA



(mm)

Designation		ØD	ØD1	L	H	H1	M	G	kg
HSK63A -	SLA20-100	20	52	100	51	25	M8	M12	1.6
	SLA25-105	25	65	105	59	25	M8	M12	2.1
	SLA32-105	32	72	105	63	30	M5	M12	2.3
HSK100A -	SLA20-105	20	52	105	51	25	M16	M12	3.1
	SLA25-110	25	65	110	59	25	M18	M12	3.8
	SLA32-125	32	72	125	63	30	M20	M12	4.4

• H: Insertion depth of tool • Through coolant system is optional

Parts

Basic				For separate purchase	
Division	Set screw		Adjust screw	Wrench	
Parts / Designation					
	BT type	HSK type		BT type	HSK type
SLA20	BTF1212-1.5	BTF1616-1.5	M1230C	LW-6	LW-8
SLA25	BTF1212-1.5	BTF1818-1.5		LW-6	LW-8
SLA32	BTF1414-1.5	BTF2020-1.5		LW-6	LW-10

Division	For separate purchase
Internal coolant system	

Classification by shank	
HSK50	HSK50A-CNS
HSK63	HSK63A-CNS
HSK100	HSK100A-CNS

BT-FMA

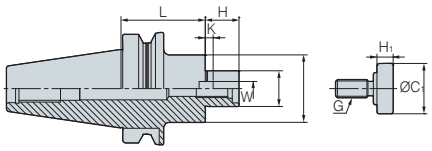


Fig. 1

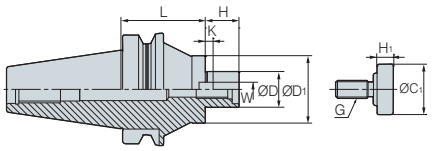


Fig. 2

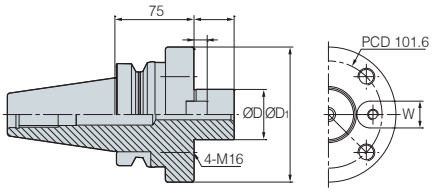


Fig. 3

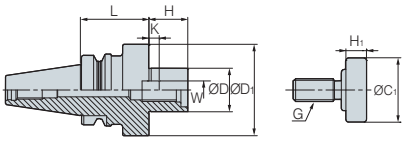


Fig. 4

(mm)

	Designation	Cutter dia.	ØD	ØD1	L	H	W	K	G	kg	Fig.
BT30 -	FMA25.4-45	80	25.4	50	45	22	9.5	5	M12	1.0	4
BT40 -	FMA25.4-45	80	25.4	50	45	22	9.5	5	M12	1.4	1
	FMA25.4-90	80	25.4	50	90	22	9.5	5	M12	2.2	1
	FMA31.75-45	100	31.75	60	45	30	12.7	7	M16	1.6	1
	FMA31.75-90	100	31.75	60	90	30	12.7	7	M16	2.5	1
	FMA38.1-60	125	38.1	80	60	34	15.87	9	M20	2.6	4
BT50 -	FMA25.4-45	80	25.4	50	45	22	9.5	5	M12	4.0	1
	FMA25.4-90	80	25.4	50	90	22	9.5	5	M12	4.7	1
	FMA25.4-150	80	25.4	50	150	22	9.5	5	M12	6.4	2
	FMA31.75-45	100	31.75	60	45	30	12.7	7	M16	4.1	1
	FMA31.75-75	100	31.75	60	75	30	12.7	7	M16	4.8	1
	FMA31.75-105	100	31.75	60	105	30	12.7	7	M16	5.6	2
	FMA38.1-45	125	38.1	80	45	34	15.87	9	M20	4.4	1
	FMA38.1-75	125	38.1	80	75	34	15.87	9	M20	5.6	1
	FMA50.8-45	160	50.8	100	45	36	19.05	10	M24	4.9	1
	FMA50.8-75	160	50.8	100	75	36	19.05	10	M24	6.8	1
	FMA47.625-75	200	47.625	128	75	38	25.4	12.5	-	8.3	3

• H: Insertion depth of tool • Through coolant system is optional • The weight above exclude the face cutter

Parts

	Basic				For separate purchase
Division	Key	Key bolt	Mount bolt	Clamp bolt	Wrench
Parts / Designation					
FMA25.4	K9.5	BX0412	MBA-M12	BX1230	LW-10
FMA31.75	K12.7	BX0515	MBA-M16	-	LW-14
FMA38.1	K15.87	BX0616	MBA-M20	-	LW-17
FMA50.8	K19.05	BX0820	MBA-M24	-	-
FMA47.625	K25.4	BX1020	-	BX1645	-

BT-FMC

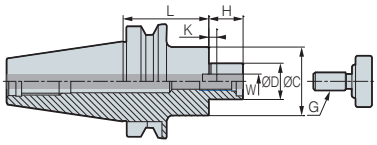


Fig. 1

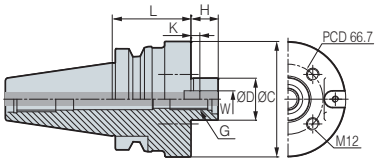


Fig. 2

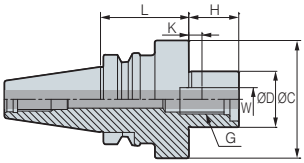


Fig. 3

(mm)

	Designation	Cutter dia.	ØD	ØD1	L	H	W	K	G	kg	Fig.
BT30 -	FMC16-45	40	16	38	45	17	8	5.0	M8	0.7	1
	FMC22-45	50/63	22	48	45	19	10	5.6	M10	0.8	2
	FMC27-50	80	27	60	50	21	12	6.3	M12	1.2	2
BT40 -	FMC16-60	40	16	38	60	17	8	5.0	M8	1.2	1
	FMC22-45	50/63	22	48	45	19	10	5.6	M10	1.2	1
	FMC22-90	50/63	22	48	90	19	10	5.6	M10	1.2	1
	FMC27-60	80	27	60	60	21	12	6.3	M12	1.8	1
	FMC27-90	80	27	60	90	21	12	6.3	M12	3.2	1
	FMC32-60	100	32	78	60	24	14	7.0	M16	2.3	2
	FMC40-50	125/160	40	89	50	27	15.87	8.0	M20	3.3	3
BT50 -	FMC16-60	40	16	38	60	17	8	5.0	M8	3.9	1
	FMC22-60	50/63	22	48	60	19	10	5.6	M10	4.1	1
	FMC27-40	80	27	60	40	21	12	6.3	M12	4.1	1
	FMC27-90	80	27	60	90	21	12	6.3	M12	5.5	1
	FMC27-150	80	27	60	150	21	12	6.3	M12	6.1	1
	FMC32-45	100	32	78	45	24	14	7.0	M16	4.2	1
	FMC32-75	100	32	78	75	24	14	7.0	M16	4.2	1
	FMC32-105	100	32	78	105	24	14	7.0	M16	4.2	1
	FMC40-50	125/160	40	89	50	27	15.87	8.0	M20	4.6	2

• H: Insertion depth of tool • Through coolant system is optional • The weight above exclude the face cutter

Parts

Basic					For separate purchase
Division	Key	Mount bolt	Key bolt	Clamp bolt	Wrench
Parts / Designation					
FMC16	K8.0	-	BX0310	BX0830	LW-6
FMC22	K10.0	-	BX0412	BX1030	LW-8
FMC27	K12.0	MBA-M12	BX0616	BX1230	LW-10
FMC32	K14.0	MBA-M16	BX0616	-	LW-14
FMC40	K15.87	MBA-M20	BX0616	BX1030	LW-17

HSK-FMC

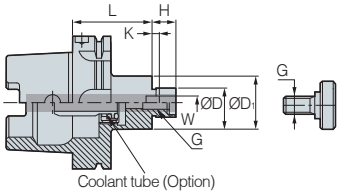


Fig. 1

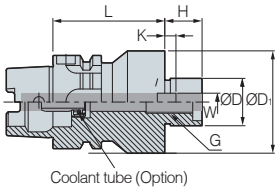


Fig. 2

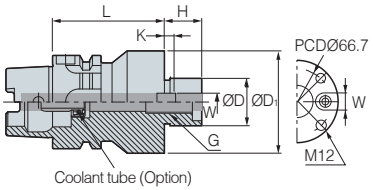


Fig. 3

(mm)

Designation		Cutter dia.	ØD	ØD1	L	H	W	K	G	kg	Fig.
HSK50A -	FMC16-40	40	16	38	40	17	8	5	M8	0.4	1
	FMC22-50	50/63	22	48	50	19	10	5.6	M10	0.8	1
HSK63A -	FMC16-50	40	16	38	50	17	8	5.0	M8	0.9	1
	FMC22-50	50/63	22	48	50	19	10	5.6	M10	1.1	1
	FMC27-60	80	27	60	60	21	12	6.3	M12	1.4	1
	FMC32-60	100	32	78	60	24	14	7.0	M16	1.7	2
	FMC40-60	125/160	40	89	60	27	15.87	8.0	M20	2.5	3

• H: Insertion depth of tool • Through coolant system is optional • The weight above exclude the face cutter

Parts

	Basic				For separate purchase
Division	Key	Mount bolt	Key bolt	Clamp bolt	Wrench
Parts / Designation					
FMC16	K8.0	-	BX0310	BX0830	LW-6
FMC22	K10.0	-	BX0412	BX1030	LW-8
FMC27	K12.0	MBA-M12	BX0516	BX1230	LW-10
FMC32	K14.0	MBA-M16	BX0616	-	LW-14
FMC40	K15.87	MBA-M20	BX0616	BX1230	LW-17

BT-MD

Modular Arbor

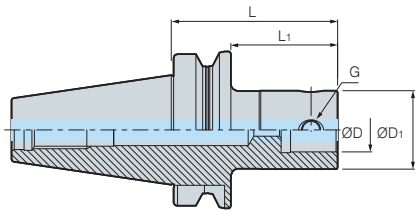


Fig. 1

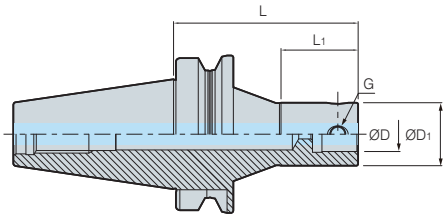


Fig. 2

(mm)

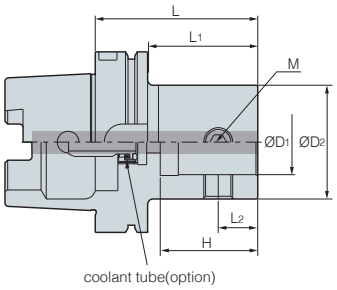
Designation		ØD	ØD1	L	L1	G	kg	Fig.
BT30 -	MD19F-70	11	19	70	45	M5	0.5	1
	MD25F-90	14	25	90	63	M6	0.6	1
	MD32F-80	18	32	80	55	M8	0.7	1
	MD40F-45	22	40	45	22	M10	0.5	1
	MD40F-60	22	40	60	36	M10	0.7	1
	MD40F-80	22	40	80	56	M10	0.9	1
	MD50F-70	28	50	70	48	M12	0.9	1
BT40 -	MD19F-70	11	19	70	40	M5	1.0	1
	MD25F-95	14	25	95	63	M6	1.1	1
	MD25F-105R	14	25	105	40	M6	1.2	2
	MD32F-100	18	32	100	70	M8	1.2	1
	MD32F-115R	18	32	115	45	M8	1.5	2
	MD40F-60	22	40	60	31	M10	1.1	1
	MD40F-110R	22	40	110	60	M10	1.6	2
	MD40F-115	22	40	115	83	M10	1.6	1
	MD50F-105	28	50	105	73	M12	1.8	1
	MD63F-64	36	63	64	37	M16	1.5	1
	MD63F-110	36	63	110	83	M16	2.4	1
	MD63F-135	36	63	135	108	M16	3.0	1
	MD80F-100	45	80	100	73	M16	2.9	1
BT50 -	MD19F-85	11	19	85	44	M5	3.7	1
	MD25F-105	14	25	105	62	M6	3.8	1
	MD25F-120R	14	25	120	40	M6	3.8	2
	MD32F-110	18	32	110	67	M8	4.0	1
	MD32F-115R	18	32	115	45	M8	4.1	2
	MD32F-235R	18	32	235	115	M8	5.5	2
	MD40F-60	22	40	60	22	M10	3.7	1
	MD40F-195	22	40	195	152	M10	4.8	1
	MD40F-230R	22	40	230	180	M10	5.0	2
	MD50F-125	28	50	125	82	M12	4.6	1
	MD50F-225	28	50	225	182	M12	6.0	1
	MD50F-250R	28	50	250	81	M12	7.0	2
	MD63F-75	36	63	75	35	M16	4.2	1
	MD63F-130	36	63	130	87	M16	5.3	1
	MD63F-195	36	63	195	152	M16	6.8	1
	MD63F-230	36	63	230	187	M16	7.5	1
	MD80F-75	45	80	75	36	M16	4.3	1
	MD80F-110	45	80	110	69	M16	5.7	1
	MD80F-175	45	80	175	134	M16	8.0	1
	MD90F-75	45	90	75	34	M16	4.8	1
	MD90F-145	45	90	145	104	M16	7.4	1
	MD90F-195	45	90	195	154	M16	9.4	1

Spare Part G53

• Through coolant system installed

HSK-MD

Modular Arbor



(mm)

Designation		ØD1	ØD2	L	L1	H	M	kg
HSK 63A -	MD19F-60	11	19	60	31	15.5	M5	0.7
	MD25F-60	14	25	60	31	18.5	M6	0.7
	MD32F-65	18	32	65	36	23.5	M8	0.8
	MD40F-70	22	40	70	41	29	M10	0.9
	MD50F-85	28	50	85	58	36	M12	1.3
	MD63F-95	36	63	95	69	46	M16	1.7

• Through coolant system is optional

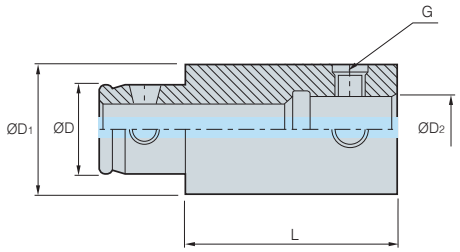
Parts

Basic		For separate purchase
Division	Taper screw	Wrench
Parts / Designation		
MD19F	BTT0506F	LW-2.5
MD25F	BTT0608F	LW-3
MD32F	BTT0810F	LW-4
MD40F	BTT1013F	LW-5
MD50F	BTT1215F	LW-6
MD63F	BTT1620F	LW-8
MD80F	BTT1626F	LW-8
MD90F	BTT1631F	LW-8

Division	For separate purchase
Internal coolant system	

Classification by shank	
HSK50	HSK50A-CNS
HSK63	HSK63A-CNS
HSK100	HSK100A-CNS

EXT Extension Bar

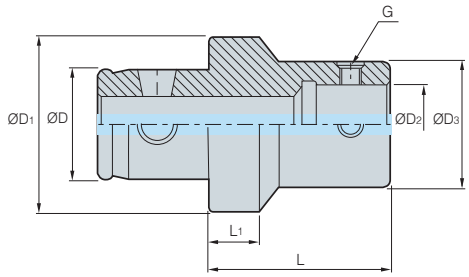


(mm)

Designation		ØD	ØD1	ØD2	L	G	kg
EXT	1930F	11	19	11	30	M5	0.1
	1950F	11	19	11	50	M5	0.1
	2530F	14	25	14	30	M6	0.1
	2550F	14	25	14	50	M6	0.2
	3235F	18	32	18	35	M8	0.2
	3260F	18	32	18	60	M8	0.4
	4040F	22	40	22	40	M10	0.4
	4090F	22	40	22	90	M10	0.9
	5050F	28	50	28	50	M12	0.7
	50100F	28	50	28	100	M12	1.4
	6360F	36	63	36	60	M16	1.4
	63120F	36	63	36	120	M16	2.9
	8070F	45	80	45	70	M16	2.5
	80120F	45	80	45	120	M16	4.5
	9080F	45	90	45	80	M16	3.8
	90130F	45	90	45	130	M16	6.4

• Through coolant system installed

RDC Reducer Bar



(mm)

Designation		ØD	ØD1	ØD2	ØD3	L	L1	G	kg
RDC	3225F	18	32	14	25	30	9	M6	0.1
	4025F	22	40	14	25	30	9	M6	0.3
	4032F	22	40	18	32	30	9	M8	0.2
	5025F	28	50	14	25	30	9	M6	0.3
	5032F	28	50	18	32	40	9	M8	0.3
	5040F	28	50	22	40	40	10	M10	0.5
	6325F	36	63	14	25	30	9	M6	0.6
	6332F	36	63	18	32	40	9	M8	0.6
	6340F	36	63	22	40	40	10	M10	0.7
	6350F	36	63	28	50	45	10	M12	0.9
	8040F	45	80	22	40	40	10	M10	1.2
	8050F	45	80	28	50	45	10	M12	1.3
	8063F	45	80	36	63	50	13	M16	1.6

• Through coolant system installed

FBH back boring & balanced type

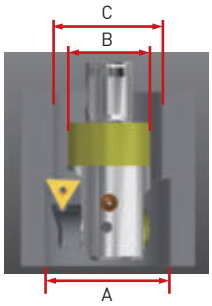
FBH/B

- High speed boring and back boring capability
- High precision balancing: G2.5, Head: G6.3
- Min. adjustment range: 2 ㎛

Code system

FBH	32	-	33	B
Fine boring head	MD		Min. Boring dia.	Balance type

Back boring range calculation



- A: Boring range (Ø)
- B: FBH/B body size (Ø)
- C: Diameter for pass (Ø)

Designation	Min. diameter for pass (Ø)
FBH1920B	≥ Ø24
FBH2526B	≥ Ø30.5
FBH3233B	≥ Ø35
FBH4042B	≥ Ø44
FBH5053B	≥ Ø54
FBH6368B	≥ Ø71.5
FBH6398B	≥ Ø100
FBH8098B	≥ Ø100

A	Max. range of back boring (Ø)	A Max. value = (2 x C) - B
B	B Max. FBH body size (Ø)	B Max. value = (2 x C) - A
C	C Min. diameter for pass (Ø)	C Min. value = (A + B) / 2

Boring range adjustment method

Fine adjustment: 2 ㎛ Boring range

Can be adjusted at a rate of 2 ㎛ by using the main scale and vernier scale

Initial position

0.002 Adjusted location

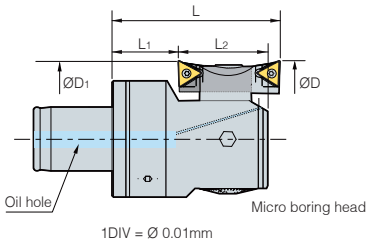
0.004 Adjusted location

0.006 Adjusted location

0.008 Adjusted location

0.010 Adjusted location

Boring range



1DIV = Ø 0.01mm

(mm)

Designation	Boring range ØD			Backboring Range (Ø)			
	Min	Max	L	Min	Max	L_1	L_2
FBH1920B	20	26 (30)	35.3	29	30	13.1	18.6
FBH2526B	26	34 (40)	40.9	36	40	15.1	21.9
FBH3233B	33	43 (50)	40.9	38	46 (50)	13.1	24.9
FBH4042B	42	54 (62)	50.4	48	54 (62)	15.2	31.4
FBH5053B	53	70 (82)	58.4	58	70 (82)	15.7	38.4
FBH6368B	68	100 (122)	80.6	78	100 (122)	27.4	48.6
FBH6398B	98	150 (172)	100.6	106	150 (172)	47.4	48.6
FBH8098B	98	150 (172)	100.6	106	150 (172)	47.4	48.6

BT-FBH/B

Micro Boring Balance type

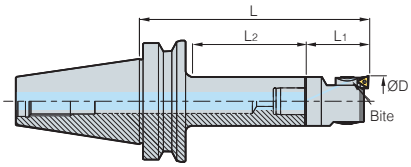
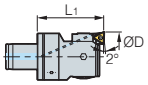


Fig. 1



Head

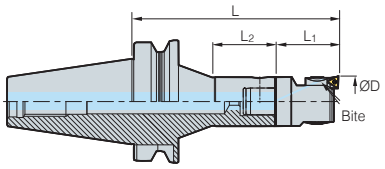


Fig. 2

(mm)

Designation			Boring range ØD		ØD	ØD1	L	L1	L2	kg	Fig.
Head	Bite	Arbor	Min	Max							
FBH1920B	FBB20N-□-□□	BT30-MD19F-70	20 (24)	26 (30)	19	11	105.2	35.2	45	0.2	1
FBH2526B	FBB26N-□-□□	BT30-MD25F-90	26 (32)	34 (40)	25	14	131	41	63	0.2	1
FBH3233B	FBB33N-□-□□	BT30-MD32F-80	33 (40)	43 (50)	32	18	121	41	55	0.3	1
FBH4042B	FBB42N-□-□□	BT30-MD40F-45	42 (50)	54 (62)	40	22	95.5	50.5	22	0.5	1
FBH4042B	FBB42N-□-□□	BT30-MD40F-60	42 (50)	54 (62)	40	22	110.5	50.5	36	0.5	1
FBH4042B	FBB42N-□-□□	BT30-MD40F-80	42 (50)	54 (62)	40	22	130.5	50.5	56	0.5	1
FBH5053B	FBB53N-□-□□	BT30-MD50F-70	53 (65)	70 (82)	50	28	128.4	58.5	48	0.8	1
FBH1920B	FBB20N-□-□□	BT40-MD19F-70	20 (24)	26 (30)	19	11	105.4	35.2	40	0.2	1
FBH2526B	FBB26N-□-□□	BT40-MD25F-95	26 (32)	34 (40)	25	14	135.9	41	63	0.2	1
FBH2526B	FBB26N-□-□□	BT40-MD25F-105R	26 (32)	34 (40)	25	14	146	41	40	0.2	2
FBH3233B	FBB33N-□-□□	BT40-MD32F-100	33 (40)	43 (50)	32	18	140.9	41	70	0.3	1
FBH3233B	FBB33N-□-□□	BT40-MD32F-115R	33 (40)	43 (50)	32	18	156	41	45	0.3	2
FBH4042B	FBB42N-□-□□	BT40-MD40F-60	42 (50)	54 (62)	40	22	165.5	50.5	31	0.5	1
FBH4042B	FBB42N-□-□□	BT40-MD40F-110R	42 (50)	54 (62)	40	22	160.5	50.5	60	0.5	2
FBH4042B	FBB42N-□-□□	BT40-MD40F-15	42 (50)	54 (62)	40	22	165.5	50.5	83	0.5	1
FBH5053B	FBB53N-□-□□	BT40-MD50F-105	53 (65)	70 (82)	50	28	163.4	58.5	73	0.8	1
FBH5053B	FBB53N-□-□□	BT40-MD63F-64	53 (65)	70 (82)	50	28	122.5	58.5	37	0.8	1
FBH6368B	FBB68N-□-□□	BT40-MD63F-110	68 (90)	100 (122)	63	36	190.6	80.6	83	2.1	1
FBH6398B	FBB68N-□-□□	BT40-MD63F-135	98 (120)	150 (172)	63	36	235.6	100.6	108	3.6	1
FBH8098B	FBB68N-□-□□	BT40-MD80F-100	98 (120)	150 (172)	80	45	200.6	100.6	73	4.8	1

Spare Part G59 FBB Bite G61

• Head: Basic, Bite/Arbor: For separate purchase • Through coolant system installed

* FBB bites are divided into two sorts Normal type: FBB□□N, Scalable type: FBB□□N-1
There are also the other options for your insert type: FBB□□N-□-C09 or T11

Bite	Applicable insert
FBB□□N, FBB□□N-1	TPGT, TPGW0802□□L
FBB□□N-□-C	CCMT, CCGT0602□□L
FBB□□N-□-C09	CCMT, CCGT09T3□□L
FBB□□N-□-T11	TPGT1103□□L

BT-FBH/B

Micro Boring Balance type

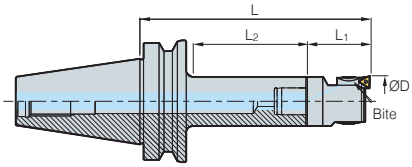
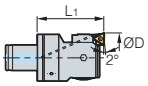


Fig. 1



Head

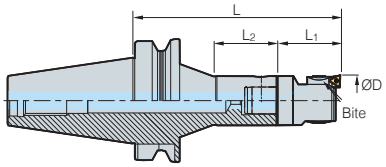


Fig. 2

(mm)

Designation			Boring range ØD		ØD	ØD1	L	L1	L2	kg	Fig.
Head	Bite	Arbor	Min	Max							
FBH1920B	FBB20N-□-□□	BT50-MD19F-85	20 (24)	26 (30)	19	11	120.2	35.2	44	0.2	1
FBH2526B	FBB26N-□-□□	BT50-MD25F-105	26 (32)	34 (40)	25	14	146	41	62	0.2	1
FBH2526B	FBB26N-□-□□	BT50-MD25F-120R	26 (32)	34 (40)	25	14	161	41	40	0.2	2
FBH3233B	FBB33N-□-□□	BT50-MD32F-110	33 (40)	43 (50)	32	18	151	41	67	0.3	1
FBH3233B	FBB33N-□-□□	BT50-MD32F-115R	33 (40)	43 (50)	32	18	156	41	45	0.3	2
FBH3233B	FBB33N-□-□□	BT50-MD32F-235R	33 (40)	43 (50)	32	18	276	41	115	0.3	2
FBH4042B	FBB42N-□-□□	BT50-MD40F-60	42 (50)	54 (62)	32	18	110.5	50.5	22	0.5	1
FBH4042B	FBB42N-□-□□	BT50-MD40F-195	42 (50)	54 (62)	40	22	245.5	50.5	152	0.5	1
FBH4042B	FBB42N-□-□□	BT50-MD40F-230R	42 (50)	54 (62)	40	22	280.5	50.5	180	0.5	2
FBH5053B	FBB53N-□-□□	BT50-MD50F-125	53 (65)	70 (82)	40	22	183.5	58.5	82	0.8	1
FBH5053B	FBB53N-□-□□	BT50-MD50F-225	53 (65)	70 (82)	50	28	283.5	58.5	182	0.8	1
FBH5053B	FBB53N-□-□□	BT50-MD50F-205R	53 (65)	70 (82)	50	28	263.5	58.5	81	0.8	2
FBH6368B	FBB68N-□-□□	BT50-MD63F-75	68 (90)	100 (122)	63	36	145.6	80.6	35	2.1	1
FBH6368B	FBB68N-□-□□	BT50-MD63F-130	68 (90)	100 (122)	63	36	210.6	80.6	87	2.1	1
FBH6368B	FBB68N-□-□□	BT50-MD63F-195	68 (90)	100 (122)	63	36	275.6	80.6	152	2.1	1
FBH6368B	FBB68N-□-□□	BT50-MD63F-230	68 (90)	100 (122)	63	36	310.6	80.6	187	2.1	1
FBH6398B	FBB68N-□-□□	BT50-MD63F-75	98 (120)	150 (172)	63	36	175.6	100.6	35	3.6	1
FBH6398B	FBB68N-□-□□	BT50-MD63F-130	98 (120)	150 (172)	63	36	230.6	100.6	87	3.6	1
FBH6398B	FBB68N-□-□□	BT50-MD63F-95	98 (120)	150 (172)	63	36	295.6	100.6	152	3.6	1
FBH6398B	FBB68N-□-□□	BT50-MD63F-230	98 (120)	150 (172)	63	36	330.6	100.6	187	3.6	1
FBH8098B	FBB68N-□-□□	BT50-MD80F-75	98 (120)	150 (172)	80	45	175.6	100.6	36	4.8	1
FBH8098B	FBB68N-□-□□	BT50-MD80F-110	98 (120)	150 (172)	80	45	215.6	100.6	69	4.8	1
FBH8098B	FBB68N-□-□□	BT50-MD80F-175	98 (120)	150 (172)	80	45	275.6	100.6	134	4.8	1

Spare Part G59 FBB Bite G61

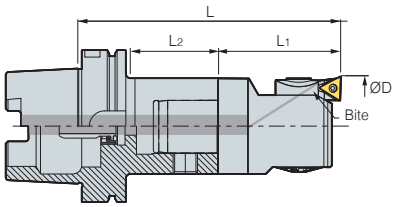
• Head: Basic, Bite/Arbor: For separate purchase • Through coolant system installed

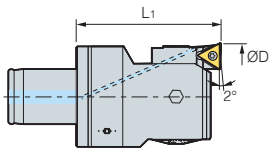
* FBB bites are divided into two sorts Normal type: FBB□□N, Scalable type: FBB□□N-1
There are also the other options for your insert type: FBB□□N-□-C09 or T11

Bite	Applicable insert
FBB□□N, FBB□□N-1	TPGT, TPGW0802□□L
FBB□□N-□-C	CCMT, CCGT0602□□L
FBB□□N-□-C09	CCMT, CCGT09T3□□L
FBB□□N-□-T11	TPGT1103□□L

HSK-FBH/B

Micro Boring Balance type





(mm)

Designation			Boring range ØD		ØD	ØD1	L	L1	L2	kg
Head	Bite	Arbor	Min	Max						
FBH1920B	FBB20N-□-□□	HSK63A-MD19F 60	20 (24)	26 (30)	19	11	95.2	35.2	31	0.2
FBH2526B	FBB26N-□-□□	HSK63A-MD25F 60	26 (32)	34 (40)	25	14	101	41	31	0.2
FBH3233B	FBB33N-□-□□	HSK63A-MD32F 65	33 (40)	43 (50)	32	18	106	41	36	0.3
FBH4042B	FBB42N-□-□□	HSK63A-MD40F 70	42 (50)	54 (62)	40	22	120.5	50.5	41	0.5
FBH5053B	FBB53N-□-□□	HSK63A-MD50F 85	53 (65)	70 (82)	50	28	143.5	58.5	58	0.9
FBH6368B	FBB68N-□-□□	HSK63A-MD63F 95	68 (90)	100 (122)	63	36	175.6	80.6	69	2.3
FBH6398B	FBB68N-□-□□	HSK63A-MD63F 95	98 (120)	150 (172)	63	36	195.6	100.6	69	3.8

Spare Part G59 FBB Bite G61

• Head: Basic, Bite/Arbor: For separate purchase • Through coolant system is optional

* FBB bites are divided into two sorts Normal type: FBB□□N, Scalable type: FBB□□N-1
There are also the other options for your insert type: FBB□□N-□-C09 or T11

Bite	Applicable insert
FBB□□N, FBB□□N-1	TPGT, TPGW0802□□L
FBB□□N-□-C	CCMT, CCGT0602□□L
FBB□□N-□-C09	CCMT, CCGT09T3□□L
FBB□□N-□-T11	TPGT1103□□L

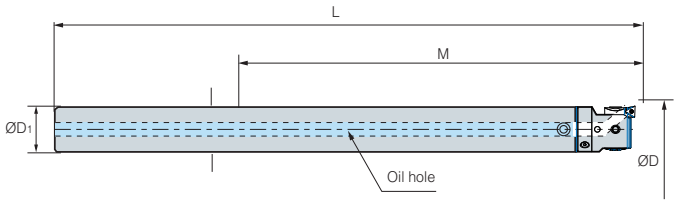
Parts

Division	For separate purchase
Internal coolant system	

Classification by shank	
HSK50	HSK50A-CNS
HSK63	HSK63A-CNS
HSK100	HSK100A-CNS

S-FBH/B

Micro Boring Balance type



(mm)

Designation	Boring range ØD		ØD1	L	M	Main component			kg
	Min	Max				Basic shank	Boring head	Bite	
S19W-FBH20B-120	20	26	19	192.35	120	S19W-MD19F-157	FBH1920B	FBB20N	0.6
S19W-FBH20B-140	20	26	19	212.35	140	S19W-MD19F-177	FBH1920B	FBB20N	0.7
S19W-FBH20B-160	20	26	19	232.35	160	S19W-MD19F-197	FBH1920B	FBB20N	0.8
S25W-FBH26B-150	26	34	25	238.35	150	S25W-MD25F-197.5	FBH2526B	FBB26N	1.4
S25W-FBH26B-175	26	34	25	263.35	175	S25W-MD25F-222.5	FBH2526B	FBB26N	1.6
S25W-FBH26B-200	26	34	25	288.35	200	S25W-MD25F-247.5	FBH2526B	FBB26N	1.8
S32W-FBH33B-180	33	43	32	279.9	180	S32W-MD32F-239	FBH3233B	FBB33N	2.7
S32W-FBH33B-240	33	43	32	339.9	240	S32W-MD32F-299	FBH3233B	FBB33N	3.4
S19-FBH20B-40	20	26	19	112.35	40	S19-MD19F-77	FBH1920B	FBB20N	0.2
S19-FBH20B-80	20	26	19	152.35	80	S19-MD19F-117	FBH1920B	FBB20N	0.2
S25-FBH26B-50	26	34	25	138.35	50	S25-MD25F-97.5	FBH2526B	FBB26N	0.4
S25-FBH26B-100	26	34	25	188.35	100	S25-MD25F-147.5	FBH2526B	FBB26N	0.6
S32-FBH33B-90	33	43	32	189.9	90	S32-MD32F-149	FBH3233B	FBB33N	1.1
S32-FBH33B-120	33	43	32	219.9	120	S32-MD32F-179	FBH3233B	FBB33N	1.2

Spare Part G59 FBB Bite G61

• S□□W: Cemented carbide shank, S□□: steel shank • Through coolant system installed

* FBB bites are divided into two sorts Normal type: FBB□□N, Scalable type: FBB□□N-1
There are also the other options for your insert type: FBB□□N-□-C09 or T11

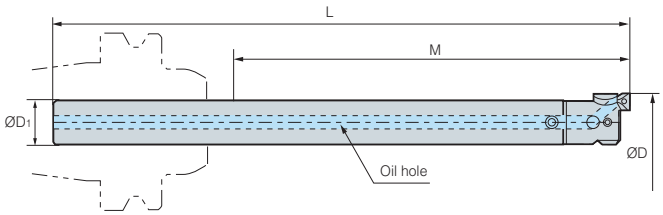
Bite	Applicable insert
FBB□□N, FBB□□N-1	TPGT, TPGW0802□□L
FBB□□N-□-C	CCMT, CCGT0602□□L
FBB□□N-□-C09	CCMT, CCGT09T3□□L
FBB□□N-□-T11	TPGT1103□□L

Parts

Basic			
Type (FBH/B)	Lock screw	Clamp screw	Wrench
			
FBH1920B	BTF0404	BXC0304	LW-2
FBH2526B	BTF0505	BXC0405	LW-2.5
FBH3233B	BTF0606	BXC0506	LW-3
FBH4042B	BTF0808	BXC0610	LW-4
FBH5053B	BTF0812	BXC0610	LW-4
FBH6368B	BTF1016	BXC0810	LW-5
FBH6398B	BTF1012	BXC0810	LW-5
FBH8098B	BTF1014	BXC0810	LW-5

S-FBH

Small Micro Boring



(mm)

Designation	Boring range ØD		ØD1	L	M	Designation			kg
	Min	Max				Basic shank	Boring head	Bite	
S14W-FBH15-85	15	18	14	155	85	S14W-M6-123	FBH15	FBB15-C	0.3
S14W-FBH15-110	15	18	14	180	110	S14W-M6-148	FBH15	FBB15-C	0.3
S16W-FBH18-95	18	22	16	165	95	S16W-M8-128	FBH18	FBB15-C	0.4
S16W-FBH18-125	18	22	16	195	125	S16W-M8-158	FBH18	FBB15-C	0.5
S14-FBH15-40	15	18	14	110	40	S14-M6-78	FBH15	FBB15-C	0.1
S16-FBH18-45	18	22	16	115	45	S16-M8-78	FBH18	FBB15-C	0.1

Spare Part **G59, G60** FBB Bite **G61**

• S□□W: Cemented carbide shank, S□□: steel shank • Through coolant system installed

* FBB bites are divided into two sorts Normal type: FBB□□N, Scalable type: FBB□□N-1
There are also the other options for your insert type: FBB□□N-□-C09 or T11

Bite	Applicable insert
FBB□□N, FBB□□N-1	TPGT, TPGW0802□□L
FBB□□N-□-C	CCMT, CCGT0602□□L
FBB□□N-□-C09	CCMT, CCGT09T3□□L
FBB□□N-□-T11	TPGT1103□□L

Parts

Basic			
Type (FBH)	Lock screw	FBB	Clamp screw
			
FBH15	BT02503	FBB15-C	BFTX02505N
FBH18	BT02503	FBB15-C	BFTX02505N

FBB Bite

Designation	Boring range	Insert	Insert screw	Clamp bolt
FBB15-C	Ø15~Ø18 mm	CCET0301-□□L	BFTX01604N	BFTX02505N
	Ø18~Ø22 mm	CCET0301-□□L	BFTX01604N	BFTX02505N
FBB20N	Ø20~Ø26 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0304
FBB20N-C	Ø20~Ø26 mm	CCET0401□□L	FTNA0238	BXC0304
FBB20N-1	Ø24~Ø30 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0304
FBB20N-1-C	Ø24~Ø30 mm	CCET0401□□L	FTNA0238	BXC0304
FBB26N	Ø26~Ø34 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0405
FBB26N-C	Ø26~Ø34 mm	CCET0401□□L	FTNA0238	BXC0405
FBB26N-1	Ø32~Ø40 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0405
FBB26N-1-C	Ø32~Ø40 mm	CCET0401□□L	FTNA0238	BXC0405
FBB33N	Ø33~Ø43 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0506
FBB33N-C	Ø33~Ø43 mm	CCMT0602□□,CCGT0602□□	BFTX02506N	BXC0506
FBB33N-1	Ø41~Ø50 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0506
FBB33N-1-C	Ø41~Ø50 mm	CCMT0602□□,CCGT0602□□L	BFTX02506N	BXC0506
FBB42N	Ø42~Ø54 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0610
FBB42N-C	Ø42~Ø54 mm	CCMT0602□□CCGT0602□□L	BFTX02506N	BXC0610
FBB42N-11	Ø42~Ø54 mm	TPGT1103□□L	BFTX0307A	BXC0610
FBB42N-1	Ø50~Ø62 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0610
FBB42N-1-C	Ø50~Ø62 mm	CCMT0602□□,CCGT0602□□L	BFTX02506N	BXC0610
FBB42N-1-T11	Ø50~Ø62 mm	TPGT1103□□L	BFTX0307A	BXC0610
FBB53N	Ø53~Ø70 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0610
FBB53N-C	Ø53~Ø70 mm	CCMT0602□□,CCGT0602□□	BFTX02506N	BXC0610
FBB53N-11	Ø53~Ø70 mm	TPGT1103□□L	BFTX0307A	BXC0610
FBB53N-1	Ø65~Ø82 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0610
FBB53N-1-C	Ø65~Ø82 mm	CCMT0602□□CCGT0602□□L	BFTX02506N	BXC0610
FBB53N-1-C09	Ø65~Ø82 mm	CCMT09T3□□,CCGT09T3□□L	BFTX0409N	BXC0610
FBB53N-1-T11	Ø65~Ø82 mm	TPGT1103□□L	BFTX0307A	BXC0610
FBB68N	Ø68~Ø100 mm/Ø98~Ø150 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0810
FBB68N-C	Ø68~Ø100 mm/Ø98~Ø150 mm	CCMT09T3□□,CCGT09T3□□L	BFTX0409N	BXC0810
FBB68N-11	Ø68~Ø100 mm/Ø98~Ø150 mm	TPGT1103□□L	BFTX0307A	BXC0810
FBB68N-1	Ø90~Ø122 mm/Ø120~Ø172 mm	TPGT0802□□L,TPGW0802□□	BFTX0204A	BXC0810
FBB68N-1-C09	Ø90~Ø122 mm/Ø120~Ø172 mm	CCMT09T3□□,CCGT09T3□□L	BFTX0409N	BXC0810
FBB68N-1-T11	Ø90~Ø122 mm/Ø120~Ø172 mm	TPGT1103□□L	BFTX0307A	BXC0810

New balance cut tool

DBCA new

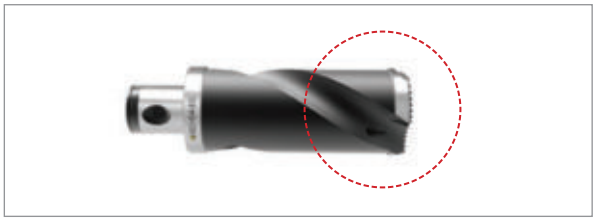
- Applied adjustment function simultaneously in Bi/Uni-direction of cartridge
- Improves the rigidity of cutting by applying cover for rotating type
- Increased machining area versus conventional own products
- Improved capacity to evacuate chips by unique design of helical type Head
- Boring range: Ø28~Ø136

Code system

DBCA	32	33	S	32
New balance cut tool	MD Arbor Size	Min. boring dia.	Straight type	H: Helical type, Non: Straight type

Main features

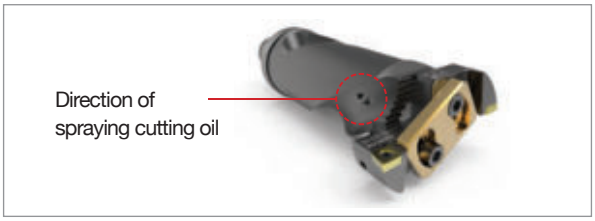
Helical Type



- Improved capacity to discharge chips from clogged and deep holes
- Minimized damage to tools and insert due to chip clogging

Extended head length	Deep hole machining implemented
Helical Type	Improved capacity to discharge chips from holes

Boring area optimization

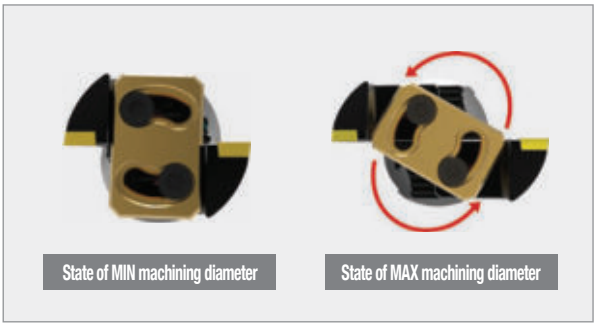


- Max. diameter expanded owing to reinforced rigidity
- Boring range expanded per model no. versus conventional boring range of DINE

Coolant Hole (Direct spray to cutting edge)	• Improved capacity to discharge chips • Improved capacity of machining

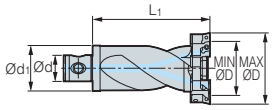
Effect of improved rigidity for cartridge by cover

Clamps the top of the cartridge stably, minimizing the vibration of tools and improving the roughness of the working surface



BT-DBC/A

Helical type



Head

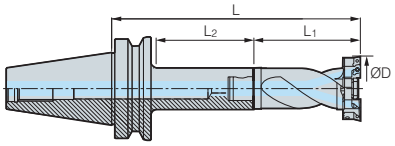


Fig. 1

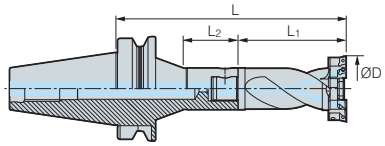


Fig. 2

(mm)

Designation		Boring range ØD		Ød	Ød1	L	L1	L2	kg	Fig.
Head	Arbor	Min	Max							
DBCA2528S-H	BT30-MD25F-90	28	38	14	25	193	103	63	0.3	1
DBCA3238S-H	BT30-MD32F-80	38	54	18	32	190	110	55	0.5	1
DBCA5054S-H	BT30-MD50F-70	54	74	28	50	215	145	48	1.8	1
DBCA2528S-H	BT40-MD25F-95	28	38	14	25	198	103	63	0.3	1
DBCA2528S-H	BT40-MD25F-105R	28	38	14	25	208	103	40	0.3	2
DBCA3238S-H	BT40-MD32F-100	38	54	18	32	210	110	70	0.5	1
DBCA3238S-H	BT40-MD32F-115R	38	54	18	32	225	110	45	0.5	2
DBCA5054S-H	BT40-MD50F-105	54	74	28	50	250	145	73	1.8	1
DBCA6374S-H	BT40-MD63F-64	74	100	36	63	244	180	37	3.3	1
DBCA6374S-H	BT40-MD63F-110	74	100	36	63	290	180	83	3.3	1
DBCA6374S-H	BT40-MD63F-135	74	100	36	63	315	180	108	3.3	1
DBCA80100S-H	BT40-MD80F-100	100	136	45	80	315	215	73	7.3	1
DBCA2528S-H	BT50-MD25F-105	28	38	14	25	208	103	62	0.3	1
DBCA2528S-H	BT50-MD25F-120R	28	38	14	25	223	103	40	0.3	2
DBCA3238S-H	BT50-MD32F-110	38	54	18	32	220	110	67	0.5	1
DBCA3238S-H	BT50-MD32F-115R	38	54	18	32	225	110	45	0.5	2
DBCA3238S-H	BT50-MD32F-235R	38	54	18	32	345	110	115	0.5	2
DBCA5054S-H	BT50-MD50F-125	54	74	28	50	270	145	82	1.8	1
DBCA5054S-H	BT50-MD50F-225	54	74	28	50	370	145	182	1.8	1
DBCA5054S-H	BT50-MD50F-250R	54	74	28	50	395	145	81	1.8	2
DBCA6374S-H	BT50-MD63F-75	74	100	36	63	255	180	35	3.3	1
DBCA6374S-H	BT50-MD63F-130	74	100	36	63	280	180	87	3.3	1
DBCA6374S-H	BT50-MD63F-195	74	100	36	63	375	180	152	3.3	1
DBCA6374S-H	BT50-MD63F-230	74	100	36	63	410	180	187	3.3	1
DBCA80100S-H	BT50-MD80F-75	100	136	45	80	290	215	36	7.3	1
DBCA80100S-H	BT50-MD80F-110	100	136	45	80	325	215	69	7.3	1
DBCA80100S-H	BT50-MD80F-175	100	136	45	80	390	215	134	7.3	1

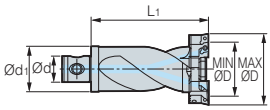
Spare Part G67

• Head: Basic, Arbor: For separate purchase • Through coolant system installed

⋆ In the above table, the Arbor Model No. is an example model no. and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

BT-DBC/A

Straight type



Head

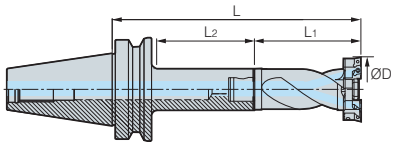


Fig. 1

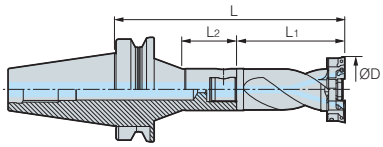


Fig. 2

(mm)

Designation		Boring range ØD		Ød	Ød1	L	L1	L2	kg	Fig.
Head	Arbor	Min	Max							
DBCA2528S	BT30-MD25F-90	28	38	14	25	193	103	63	0.2	1
DBCA3238S	BT30-MD32F-80	38	54	18	32	190	110	55	0.4	1
DBCA5054S	BT30-MD50F-70	54	74	28	50	215	145	48	1.1	1
DBCA2528S	BT40-MD25F-95	28	38	14	25	198	103	63	0.2	1
DBCA2528S	BT40-MD25F-105R	28	38	14	25	208	103	40	0.2	2
DBCA3238S	BT40-MD32F-100	38	54	18	32	210	110	70	0.4	1
DBCA3238S	BT40-MD32F-115R	38	54	18	32	225	110	45	0.4	2
DBCA5054S	BT40-MD50F-105	54	74	28	50	205	145	73	1.1	1
DBCA6374S	BT40-MD63F-64	74	100	36	63	244	180	37	1.9	1
DBCA6374S	BT40-MD63F-135	74	100	36	63	315	180	83	1.9	1
DBCA6374S	BT40-MD80F-100	74	100	36	63	280	180	108	1.9	1
DBCA80100S	BT40-MD80F-100	100	136	45	80	315	215	73	3.7	1
DBCA2528S	BT50-MD25F-105	28	38	14	25	208	103	62	0.2	1
DBCA2528S	BT50-MD25F-120R	28	38	14	25	223	103	40	0.2	2
DBCA3238S	BT50-MD32F-110	38	54	18	32	220	110	67	0.4	1
DBCA3238S	BT50-MD32F-115R	38	54	18	32	225	110	45	0.4	2
DBCA3238S	BT50-MD32F-235R	38	54	18	32	345	110	115	0.4	2
DBCA5054S	BT50-MD50F-125	54	74	28	50	270	145	82	1.1	1
DBCA5054S	BT50-MD50F-225	54	74	28	50	370	145	182	1.1	1
DBCA5054S	BT50-MD50F-250R	54	74	28	50	395	145	81	1.1	2
DBCA6374S	BT50-MD63F-75	74	100	36	63	255	180	35	1.9	1
DBCA6374S	BT50-MD63F-130	74	100	36	63	310	180	87	1.9	1
DBCA6374S	BT50-MD63F-195	74	100	36	63	375	180	152	1.9	1
DBCA6374S	BT50-MD63F-230	74	100	36	63	410	180	187	1.9	1
DBCA80100S	BT50-MD80F-75	100	136	45	80	290	215	36	3.7	1
DBCA80100S	BT50-MD80F-110	100	136	45	80	325	215	69	3.7	1
DBCA80100S	BT50-MD80F-175	100	136	45	80	390	215	134	3.7	1

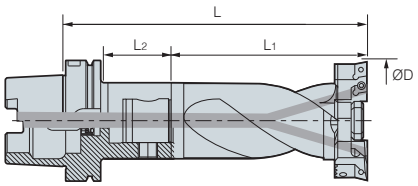
Spare Part G67

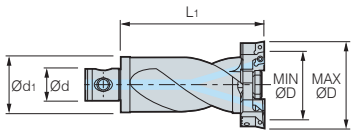
• Head: Basic, Arbor: For separate purchase • Through coolant system installed

* In the above table, the Arbor Model No. is an example model no. and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

HSK-DBC/A

Helical type





Head

(mm)

Designation		Boring range ØD		Ød	Ød1	L	L1	L2	kg
Head	Arbor	Min	Max						
DBCA2528S-H	HSK63A-MD25F-60	38	54	14	25	163	103	31	0.3
DBCA3238S-H	HSK63A-MD32F-65	38	54	18	32	175	110	36	0.5
DBCA5054S-H	HSK63A-MD50F-85	54	74	28	50	230	145	58	1.8
DBCA6374S-H	HSK63A-MD63F-95	74	100	45	80	275	180	69	3.3

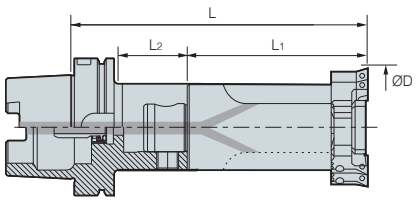
Spare Part **G67**

• Head: Basic, Arbor: For separate purchase • Through coolant system is optional

* In the above table, the Arbor Model No. is an example model no. and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

HSK-DBC/A

Straight type



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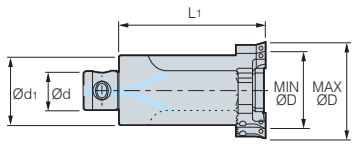


Head

(mm)

Designation		Boring range ØD		Ød	Ød1	L	L1	L2	kg
Head	Arbor	Min	Max						
DBCA2528S	HSK63A-MD25F-60	38	54	14	25	122	62	31	0.3
DBCA3238S	HSK63A-MD32F-65	38	54	18	32	134.5	69.5	36	0.5
DBCA5054S	HSK63A-MD50F-85	54	74	28	50	179	94	58	1.8
DBCA6374S	HSK63A-MD63F-95	74	100	45	80	100	106.5	69	3.3

Spare Part **G67**

• Head: Basic, Arbor: For separate purchase • Through coolant system is optional

* In the above table, the Arbor Model No. is an example model no. and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

Parts

Designation	For separate purchase
Internal coolant system	

Classification by shank	
HSK50	HSK50A-CNS
HSK63	HSK63A-CNS
HSK100	HSK100A-CNS

BT-DBC

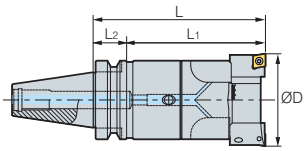


Fig. 1

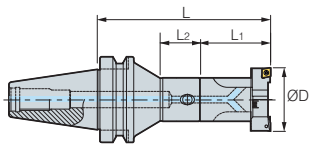
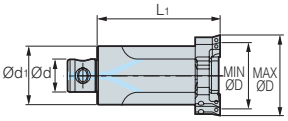


Fig. 2



Head

(mm)

Designation		Boring range ØD		Ød	Ød1	L	L1	L2	kg	Fig.
Head	Arbor	Min	Max							
DBC2528S	BT30-MD25F-90	28	35	14	25	150	60	63	0.3	1
DBC3235S	BT30-MD32F-80	35	46	18	32	145	65	55	0.4	1
DBC4046S	BT30-MD40F-45	46	58	22	40	115	70	22	0.6	1
DBC4046S	BT30-MD40F-60	46	58	22	40	130	70	36	0.6	1
DBC4046S	BT30-MD40F-80	46	58	22	40	140	70	56	0.6	1
DBC5058S	BT30-MD50F-70	58	74	28	50	150	80	48	1.1	1
DBC2528S	BT40-MD25F-95	28	35	14	25	155	60	63	0.3	1
DBC2528S	BT40-MD25F-105R	28	35	14	25	165	60	40	0.3	2
DBC3235S	BT40-MD32F-100	35	46	18	32	165	65	70	0.4	1
DBC3235S	BT40-MD32F-115R	35	46	18	32	180	65	45	0.4	2
DBC4046S	BT40-MD40F-60	46	58	22	40	130	70	31	0.6	1
DBC4046S	BT40-MD40F-110R	46	58	22	40	180	70	60	0.6	2
DBC4046S	BT40-MD40F-115	46	58	22	40	185	70	83	0.6	1
DBC5058S	BT40-MD50F-105	58	74	28	50	185	80	73	1.1	1
DBC6374S	BT40-MD63F-64	74	94	36	63	154	90	37	2.0	1
DBC6374S	BT40-MD63F-110	74	94	36	63	200	90	83	2.0	1
DBC6374S	BT40-MD63F-135	74	94	36	63	225	90	108	2.0	1
DBC8094S	BT40-MD80F-100	94	120	45	80	200	100	73	3.5	1
DBC2528S	BT50-MD25F-105	28	35	14	25	165	60	62	0.3	1
DBC2528S	BT50-MD25F-120R	28	35	14	25	185	60	40	0.3	2
DBC3235S	BT50-MD32F-110	35	46	18	32	175	65	67	0.4	1
DBC3235S	BT50-MD32F-115R	35	46	18	32	180	65	45	0.4	2
DBC3235S	BT50-MD32F-235R	35	46	18	32	300	65	115	0.4	2
DBC4046S	BT50-MD40F-60	46	58	22	40	130	70	22	0.6	1
DBC4046S	BT50-MD40F-195	46	58	22	40	265	70	152	0.6	1
DBC4046S	BT50-MD40F-230R	46	58	22	40	300	70	180	0.6	2
DBC5058S	BT50-MD50F-125	58	74	28	50	205	80	82	1.1	1
DBC5058S	BT50-MD50F-225	58	74	28	50	305	80	182	1.1	1
DBC5058S	BT50-MD50F-250R	58	74	28	50	330	80	81	1.1	2
DBC6374S	BT50-MD63F-75	74	94	36	63	165	90	35	2.0	1
DBC6374S	BT50-MD63F-130	74	94	36	63	220	90	87	2.0	1
DBC6374S	BT50-MD63F-195	74	94	36	63	285	90	152	2.0	1
DBC6374S	BT50-MD63F-230	74	94	36	80	320	90	187	2.0	1
DBC8094S	BT50-MD80F-75	94	120	36	80	175	100	36	3.5	1
DBC8094S	BT50-MD80F-110	94	120	45	80	210	100	69	3.5	1
DBC8094S	BT50-MD80F-175	94	120	45	80	275	100	134	4.5	1
DBC120S	BT50-MD80F-175	120	175	45	80	275	100	134	4.1	1

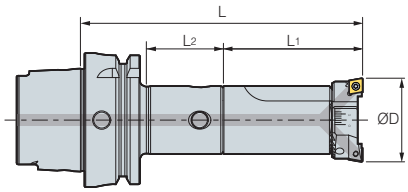
Spare Part G67

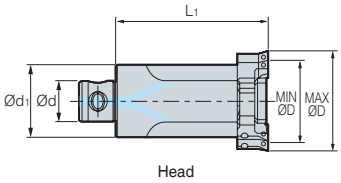
• Head: Basic, Arbor: For separate purchase • Through coolant system installed

* In the above table, the Arbor Model No. is an example model no. and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

HSK-DBC

Modular type





(mm)

Designation		Boring range ØD		Ød	Ød1	L	L1	L2	kg
Head	Arbor	Min	Max						
DBC2528S	HSK63A-MD25F-60	28	35	14	25	120	60	31	0.3
DBC3235S	HSK63A-MD32F-65	35	46	18	32	130	65	36	0.4
DBC4046S	HSK63A-MD40F-70	46	58	22	40	140	70	41	0.6
DBC5058S	HSK63A-MD50F-85	58	74	28	50	165	80	58	1.1
DBC6374S	HSK63A-MD63F-95	74	94	36	63	185	90	69	2.0

Spare Part G67

• Head: Basic, Arbor: For separate purchase • Through coolant system is optional

* In the above table, the Arbor Model No. is an example model no. and able to adjust the depth of boring with a combination of MD arbors and extension bars. For more details, see the MD arbor page.

Parts

• DBCA

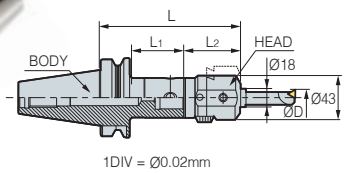
Basic									
Division	Head	Spring pin	Wrench bolt	Wrench	Cartridge	Set screw	Wrench	Clamp screw	Torx wrench
Parts / Designation									
DBCA2528S	DBCA2528	SP0308	BX0420	LW-3	BCC28-EC	BT0308	LW-1.5	BFTX02506N	TRX8
DBCA3238S	DBCA3238	SP0410	BX0525	LW-4	BCC38-EC	BT0310	LW-1.5	BFTX02506M	TRX8
DBCA5054S	DBCA5054	SP0616	BX0630	LW-5	BCC54-EC	BT0414	LW-2	BFTX0407N	TRX15
DBCA6374S	DBCA6374	SP1018	BX0635	LW-5	BCC74-EC	BT0520	LW-2.5	BFTX0511N	TRX20
DBCA80100S	DBCA80100	SP1020	BX0840	LW-6	BCC100-EC	BT0625	LW-3	BFTX0511N	TRX20

• DBC

Basic									
Division	Head	Spring pin	Wrench bolt	Wrench	Cartridge	Set screw	Wrench	Clamp screw	Torx wrench
Parts / Designation									
DBC2528S	DBC2528	SP0308	BX0415	LW-3	BCC28	BT0306	LW-1.5	FTKA02565	TRX7
DBC3235S	DBC3235	SP0410	BX0515	LW-4	BCC35	BT0308			
DBC4046S	DBC4046	SP0516	BX0620	LW-5	BCC46	BT0410	LW-2	FTNA0408	TRX15
DBC5058S	DBC5058	SP0616			BCC58	BT0412			
DBC6374S	DBC6374	SP1018	BX0830	LW-6	BCC74	BT0516	LW-2.5	BFTX0511N	TRX20
DBC8094S	DBC8094	SP1020	BX1035	LW-8	BCC94	BT0620	LW-3		
DBC120S	DBC120N	SP1020	BX0830	LW-6	BCC120	BT0830	LW-4	BFTX0511N	TRX20

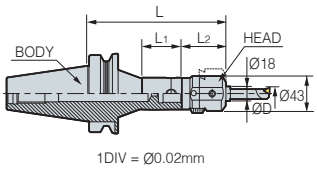
BT-SMB

Small Micro Boring Bar



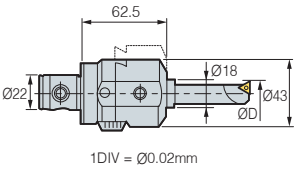
1DIV = Ø0.02mm

Fig. 1



1DIV = Ø0.02mm

Fig. 2



1DIV = Ø0.02mm

Head

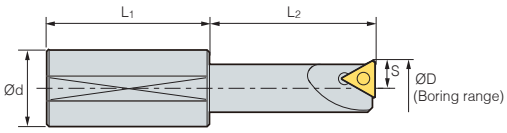
(mm)

Designation			Boring range ØD	L	L_1	L_2	kg	Fig.
Head	Arbor	Bite						
SMB4022	BT30-MD40F-45	BB18-□(S)	Ø6.0~Ø34.0	107.5	22	62.5	0.6	1
SMB4022	BT30-MD40F-60	BB18-□(S)	Ø6.0~Ø34.0	122.5	36	62.5	0.6	1
SMB4022	BT30-MD40F-80	BB18-□(S)	Ø6.0~Ø34.0	142.5	56	62.5	0.6	1
SMB4022	BT40-MD40F-60	BB18-□(S)	Ø6.0~Ø34.0	122.5	31	62.5	0.6	1
SMB4022	BT40-MD40F-110R	BB18-□(S)	Ø6.0~Ø34.0	172.5	60	62.5	0.6	2
SMB4022	BT40-MD40F-115	BB18-□(S)	Ø6.0~Ø34.0	177.5	83	62.5	0.6	1
SMB4022	BT50-MD40F-60	BB18-□(S)	Ø6.0~Ø34.0	122.5	22	62.5	0.6	1
SMB4022	BT50-MD40F-195	BB18-□(S)	Ø6.0~Ø34.0	257.5	152	62.5	0.6	1
SMB4022	BT50-MD40F-230R	BB18-□(S)	Ø6.0~Ø34.0	292.5	180	62.5	0.6	2

* Adjustment length: 7 mm

• Head: Basic, Arbor/Bite: For separate purchase • Through coolant system not available

BB Bite (For SMB)



(mm)

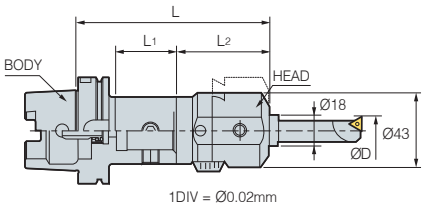
Designation		Boring range		Ød	L_1	L_2	S	kg	Insert	Insert screw
		Min	Max							
BB	18-7(S)	7	27	18	30	30	3.5	0.1	TBGT0601□□L	BFTX0204A
	18-9(S)	9	29	18	30	40	4.5	0.1	TPGT0802□□L	BFTX0204A
	18-11(S)	11	31	18	30	45	5.5	0.1	TPGT1103□□L	BFTX0307A
	18-13(S)	13	33	18	40	45	6.5	0.1	TPGT1103□□L	BFTX0307A
	18-15(S)	15	35	18	40	50	7.5	0.2	TPGT1103□□L	BFTX0307A
	18-17(S)	17	37	18	40	50	8.5	0.2	TPGT1103□□L	BFTX0307A

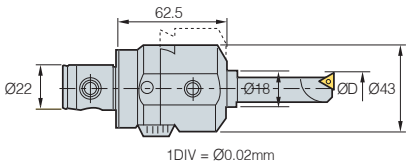
Parts

Basic				For separate purchase	
Division	Boring head	Taper screw	Wrench	Boring bite	Basic holder
Parts / Designation					
SMB	SMB4022	BTT1013F	LW-2.5	BB18	MD40F

HSK-SMB

Small Micro Boring Bar





Head

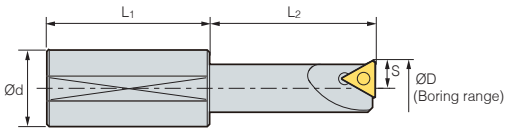
(mm)

Designation			Boring range ØD	L	L_1	L_2	kg
Head	Arbor	Bite					
SMB4022	HSK63A-MD40F - 70	BB18-□(S)	Ø6.0~Ø34.0	132.5	41	62.5	0.6

* Adjustment length: 17 mm

• Head: Basic, Arbor/Bite: For separate purchase • Through coolant system not available

BB Bite (For SMB)



(mm)

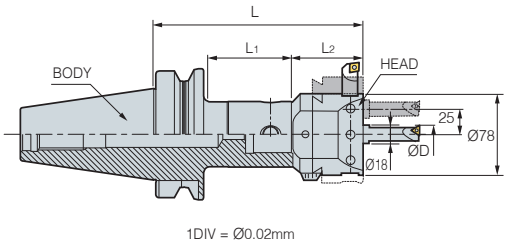
Designation		Boring range		Ød	L_1	L_2	S	kg	Insert	Insert screw
		Min	Max							
BB	18-7(S)	7	27	18	30	30	3.5	0.1	TBGT0601□□L	BFTX0204A
	18-9(S)	9	29	18	30	40	4.5	0.1	TPGT0802□□L	BFTX0204A
	18-11(S)	11	31	18	30	45	5.5	0.1	TPGT1103□□L	BFTX0307A
	18-13(S)	13	33	18	40	45	6.5	0.1	TPGT1103□□L	BFTX0307A
	18-15(S)	15	35	18	40	50	7.5	0.2	TPGT1103□□L	BFTX0307A
	18-17(S)	17	37	18	40	50	8.5	0.2	TPGT1103□□L	BFTX0307A

Parts

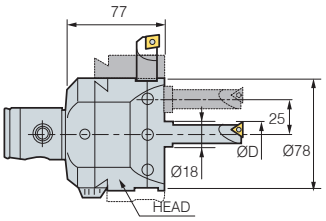
Basic				For separate purchase	
Division	Boring head	Taper screw	Wrench	Boring bite	Basic holder
Parts / Designation					
SMB	SMB4022	BTT1013F	LW-2.5	BB18	MD40F

BT-KMB

Micro Boring



1DIV = Ø0.02mm



1DIV = Ø0.02mm

Head

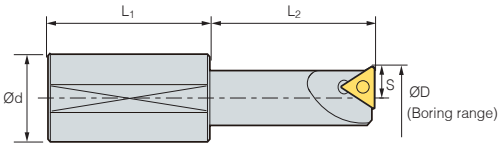
(mm)

Designation			Boring range ØD		L	L1	L2	kg
Head	Arbor	Bite	Bite position	ØD				
KMB6336	BT40-MD63F-64	BB18-□(S)	Center Hole	Ø8.0~Ø38.0	141	37	77	2.2
KMB6336	BT40-MD63F-110	BB18-□(S)	Center Hole	Ø8.0~Ø38.0	187	83	77	2.2
KMB6336	BT40-MD63F-135	BB18-□(S)	Eccentric Hole	Ø41.0~101.0	212	108	77	2.2
KMB6336	BT50-MD63F-75	BB18-□(S)	Eccentric Hole	Ø41.0~101.0	152	35	77	2.2
KMB6336	BT50-MD63F-135	BB18-□(S)	Side Hole	Max.Ø165.0	207	87	77	2.2
KMB6336	BT50-MD63F-195	BB18-□(S)	Side Hole	Max.Ø165.0	272	152	77	2.2

* Adjustment length: 7 mm

• Head: Basic, Arbor/Bite: For separate purchase • Through coolant system not available

BB Bite (For KMB)



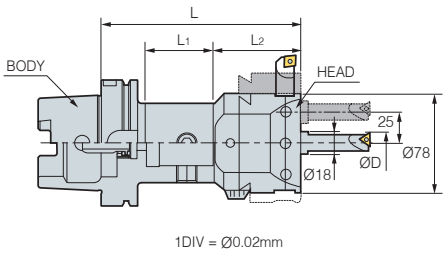
(mm)

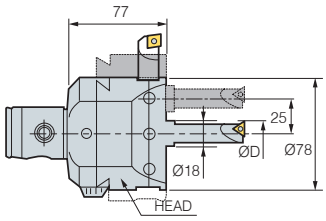
Designation		Boring range (Center)				Ød	L1	L2	S	kg	Insert	Insert Screw
		Center		Eccentric								
BB	18-7(S)	7	40	27	91	18	30	30	3.5	0.1	TBGT0601□□L	BFTX0204A
	18-9(S)	9	42	29	93	18	30	40	4.5	0.1	TPGT0802□□L	BFTX0204A
	18-11(S)	11	44	31	95	18	30	45	5.5	0.1	TPGT1103□□L	BFTX0307A
	18-13(S)	13	46	33	97	18	40	45	6.5	0.1	TPGT1103□□L	BFTX0307A
	18-15(S)	15	48	35	99	18	40	50	7.5	0.2	TPGT1103□□L	BFTX0307A
	18-17(S)	17	50	37	101	18	40	50	8.5	0.2	TPGT1103□□L	BFTX0307A

Parts

Basic				For separate purchase	
Division	Boring head	Taper screw	Wrench	Boring bite	Basic holder
Parts / Designation					
KMB	KMB6336	BTT1620F	LW-4.0	BB18	MD63F

HSK-KMB





Head

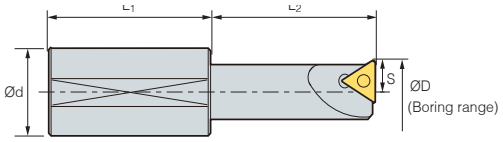
(mm)

Designation			Boring range ØD		L	L1	L2	kg
Head	Arbor	Bite	Bite position	ØD				
KMB6336	HSK63A-MD63F-95	BB18-□(S)	Center Hole	Ø8.0~Ø38.0	172	69	77	2.2

* Adjustment length: 7 mm

• Head: Basic, Arbor/Bite: For separate purchase • Through coolant system not available

BB Bite (For KMB)



(mm)

Designation		Boring range (Center)				Ød	L1	L2	S	kg	Insert	Insert Screw
		Center		Eccentric								
BB	18-7(S)	7	40	27	91	18	30	30	3.5	0.1	TBGT0601□□L	BFTX0204A
	18-9(S)	9	42	29	93	18	30	40	4.5	0.1	TPGT0802□□L	BFTX0204A
	18-11(S)	11	44	31	95	18	30	45	5.5	0.1	TPGT1103□□L	BFTX0307A
	18-13(S)	13	46	33	97	18	40	45	6.5	0.1	TPGT1103□□L	BFTX0307A
	18-15(S)	15	48	35	99	18	40	50	7.5	0.2	TPGT1103□□L	BFTX0307A
	18-17(S)	17	50	37	101	18	40	50	8.5	0.2	TPGT1103□□L	BFTX0307A

Parts

Basic				For separate purchase	
Division	Boring head	Taper screw	Wrench	Boring bite	Basic holder
Parts / Designation					
KMB	KMB6336	BTT1620F	LW-4.0	BB18	MD63F

BT-SMH

Small Micro Boring Bar (For High precision)

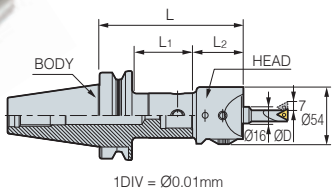


Fig. 1

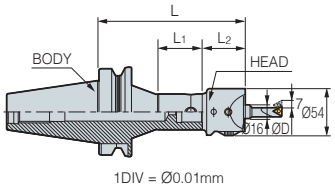
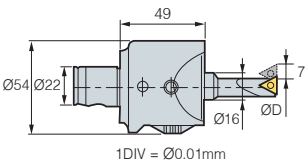


Fig. 2



Head

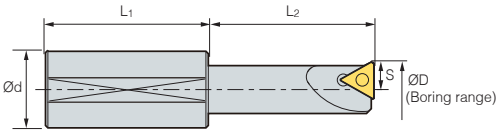
(mm)

Designation			Boring range ØD	L	L_1	L_2	kg	Fig.
Head	Arbor	Bite						
SMH4022	BT30-MD40F-45	BB16-□(S)	Ø6.0~Ø34.0	94	22	49	0.6	1
SMH4022	BT30-MD40F-60	BB16-□(S)	Ø6.0~Ø34.0	109	36	49	0.6	1
SMH4022	BT30-MD40F-80	BB16-□(S)	Ø6.0~Ø34.0	129	56	49	0.6	1
SMH4022	BT40-MD40F-60	BB16-□(S)	Ø6.0~Ø34.0	109	31	49	0.6	1
SMH4022	BT40-MD40F-110R	BB16-□(S)	Ø6.0~Ø34.0	159	60	49	0.6	2
SMH4022	BT40-MD40F-115	BB16-□(S)	Ø6.0~Ø34.0	164	83	49	0.6	1
SMH4022	BT50-MD40F-60	BB16-□(S)	Ø6.0~Ø34.0	109	22	49	0.6	1
SMH4022	BT50-MD40F-195	BB16-□(S)	Ø6.0~Ø34.0	244	152	49	0.6	1
SMH4022	BT50-MD40F-230R	BB16-□(S)	Ø6.0~Ø34.0	279	180	49	0.6	2

* Adjustment length: 7 mm

• Head: Basic, Arbor/Bite: For separate purchase • Through coolant system not available

BB Bite (For SMH)



(mm)

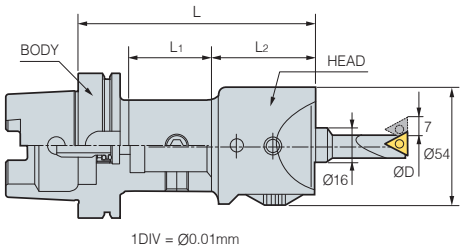
Designation		Boring range ØD		Ød	L_1	L_2	S	Insert	Insert Screw	Wrench
		Min	Max							
BB	16-5(S)	5	19	16	34	20	2.75	WBGT0601□□L	BFTX0203A	TRX06
	16-7(S)	7	21	16	34	30	3.5	TBGT0601□□L	BFTX0204A	TRX06
	16-9(S)	9	23	16	34	40	4.5	TPGT0802□□L	BFTX0204A	TRX06
	16-11(S)	11	25	16	34	45	5.5	TPGT1103□□L	BFTX0307A	TRX10
	16-15(S)	15	29	16	34	50	7.5	TPGT1604□□L	BFTX0307A	TRX10
	16-19(S)	19	33	16	34	60	9.5	TPGT1604□□L	BFTX0410A	TRX15

Parts

Basic				For separate purchase	
Division	Boring head	Taper screw	Wrench	Boring bite	Basic holder
Parts / Designation					
SMH	SMH4022	BTT1013F	LW-3.0	BB16	MD40F

HSK-SMH

Small Micro Boring Bar (For High precision)



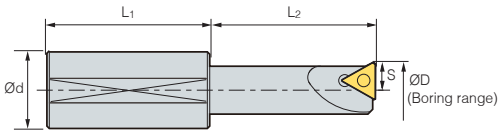
(mm)

Designation			Boring range ØD	L	L_1	L_2	kg
Head	Arbor	Bite					
SMH4022	HSK63-MD40F-70	BB16-□(S)	Ø6.0~Ø34.0	132.5	41	49	0.6

* Adjustment length: 17 mm

• Head: Basic, Arbor/Bite: For separate purchase • Through coolant system not available

BB Bite (For SMH)



(mm)

Designation		Boring range ØD		Insert	Insert Screw	kg
		Min	Max			
BB	16-7(S)	8	28	TBGT0601□□L	BFTX0204A	0.1
	16-9(S)	10	30	TPGT0802□□L	BFTX0204A	0.1
	16-11(S)	12	32	TPGT1103□□L	BFTX0307A	0.1
	16-13(S)	14	34	TPGT1103□□L	BFTX0307A	0.1
	16-15(S)	16	36	TPGT1604□□L	BFTX0307A	0.2
	16-17(S)	18	38	TPGT1604□□L	BFTX0307A	0.2

Parts

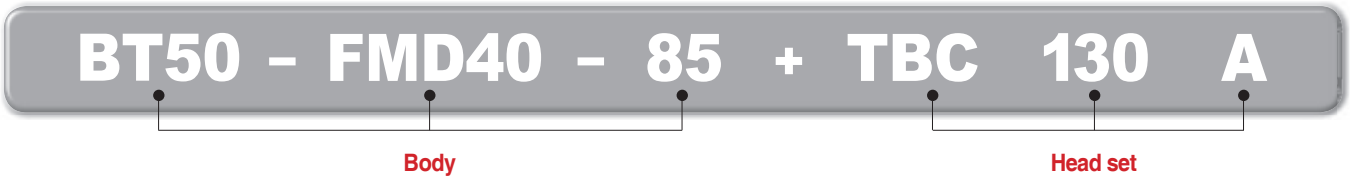
Basic				For separate purchase	
Division	Boring head	Taper screw	Wrench	Boring bite	Basic holder
Parts / Designation					
SMH	SMH4022	BTT1013F	LW-3.0	BB16	MD40F

Wide diameter boring system

TBCA new

- Convenience in use simultaneously (available both inside and outside)
- Broad boring diameter and range
- Rough/Finishing boring with replaceable cartridge and common rail
- Boring range for outer diameter: Ø0~Ø395
- Boring range for inner diameter: Ø130~Ø631

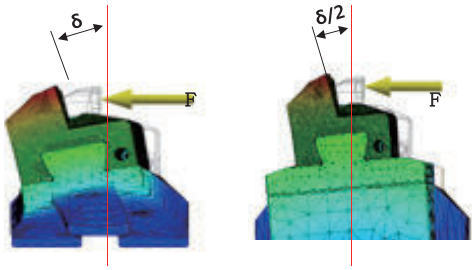
Code system



Features

Reinforced rigidity

• 50% less moment strain (versus the conventional product of DINE)



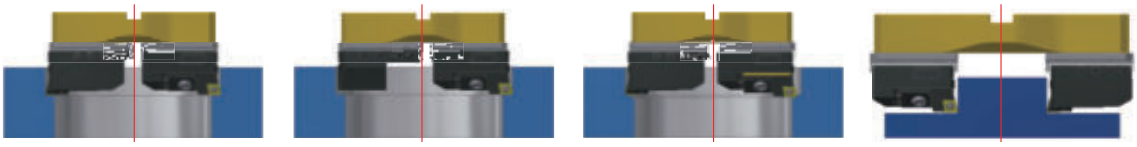
TBC460 (old type) TBC460A (new type)

Lightweight design(Head set)

• BCC (Cartridge) + DBR (Bridge) + DBB (Rail)

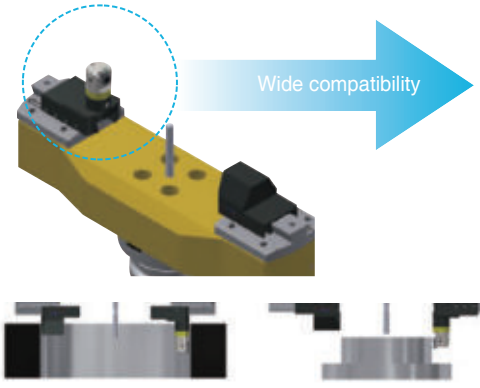
TBC130A	TBC175A	TBC220A	TBC265A
4.2 Kg	5.6 Kg	6.6 Kg	7.5 Kg
TBC310A	TBC385A	TBC460A	TBC535A
9.5 Kg	11.6Kg	14 Kg	16 Kg

Application



Twin edge boring Single edge boring Step boring Outside boring

Wide compatibility

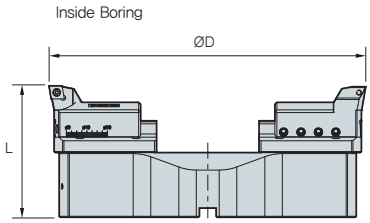


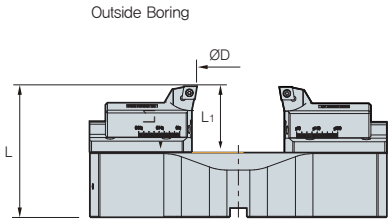
Images		List of clamping parts	Cutting type
Outer dia. boring		FBH3233B + FCE310 + FCB310	Finishing boring
		DBCA3235S + FCE310 + CB310	Rough boring
Inner dia. boring		DBS□□-□□CA + SCGCL16C-1A2	Rough boring
		FCC310	Finishing boring
		BCC1354	Rough boring

• TBC310A in case

TBCA

Wide diameter boring system





(mm)

FMC Arbor (Individual order)	kg	Twin Edge Boring for Roughing							
		TBC Head set (Rail + Cartridge (Main))	L	Boring range ØD					kg
				Inside Boring		Outside Boring			
				Min	Max	Min	Max	L1	
BT50-FMC40-50	4.6	TBC130A (DBR130 + BCC1348 + BCC1348)	108	130	180	0	35	65	3.8
BT50-FMC40-50	4.6	TBC175A (DBR175 + BCC1348 + BCC1348)	113	175	225	0	75	65	5.2
BT50-FMC40-50	4.6	TBC220A (DBR07015 + BCC1348 + BCC1348)	118	220	270	60	124	65	7.3
BT50-FMC40-50	4.6	TBC265A (DBR07015 + BCC1348 + BCC1348)	123	265	315	64	174	65	7.3
BT50-FMC40-50	4.6	TBC310A (DBR10015 + BCC1345 + BCC1345)	128	310	390	79	159	65	9.7
BT50-FMC40-50	4.6	TBC385A (DBR10015 + BCC1354 + BCC1345)	133	385	465	153	233	65	11.8
BT50-FMC40-50	4.6	TBC460A (DBR10015 + BCC1354 + BCC1345)	138	460	540	229	309	65	14.3
BT50-FMC40-50	4.6	TBC535A (DBR10015 + BCC1354 + BCC1345)	143	535	615	303	383	65	16.4

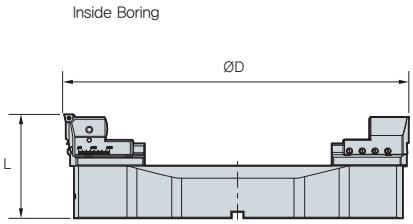
• TBC Head set: Basic, Arbor: For separate purchase • Through coolant system is optional

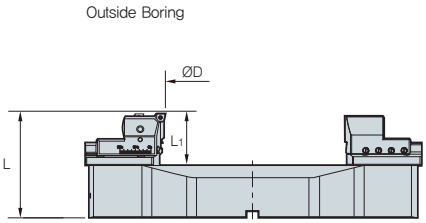
Parts

Basic			For separate purchase		
Head set	**Bridge**	**Rail**	**Cartridge**	**Arbor**	**Pin**
					
TBC130A	DBB130	DBR130	BCC1348S	BT50-FMC40-50	PN1080
TBC175A	DBB175	DBR175			
TBC220A	DBB220	DBR07015			
TBC265A	DBB265	DBR07015			
TBC310A	DBB310	DBR10015	BCC1354S		
TBC385A	DBB385	DBR10015			
TBC460A	DBB460	DBR10015			
TBC535A	DBB535	DBR10015			

TBCA

Wide diameter boring system





(mm)

FMC Arbor (Individual order)	kg	Single Edge Boring for Roughing							
		TBC Head set (Rail + Cartridge (Separate sale))	L	Boring range ØD					kg
				Inside Boring		Outside Boring			
				Min	Max	Min	Max	L_1	
BT50-FMC40-50	4.6	TBC130A (DBR130 + FCC130 + FCB130 + FBB33N)	101	130	180	37	37	72	4.4
BT50-FMC40-50	4.6	TBC175A (DBR175 + FCC130 + FCB130 + FBB33N)	106	175	225	80	80	72	5.7
BT50-FMC40-50	4.6	TBC220A (DBR07015 + FCC130 + FCB130 + FBB33N)	111	220	270	173	173	72	7.8
BT50-FMC40-50	4.6	TBC265A (DBR07015 + FCC130 + FCB130 + FBB33N)	116	265	315	176	176	72	7.9
BT50-FMC40-50	4.6	TBC310A (DBR10015 + FCC310 + FCB310 + BB33N)	121	310	390	155.5	155.5	72	10.1
BT50-FMC40-50	4.6	TBC385A (DBR10015 + FCC310 + FCB310 + FBB33N)	126	385	465	229.5	229.5	72	12.2
BT50-FMC40-50	4.6	TBC460A (DBR10015 + FCC310 + FCB310 + FBB33N)	131	460	540	305.5	305.5	72	14.7
BT50-FMC40-50	4.6	TBC535A (DBR10015 + FCC310 + FCB310 + FBB33N)	136	535	615	379.5	379.5	72	16.7

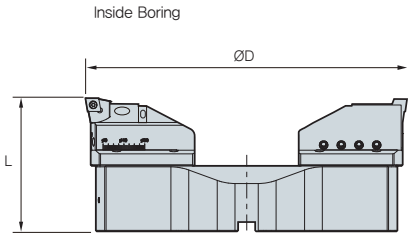
• TBC Head set/Rail: Basic, Arbor/Cartridge: For separate purchase • Through coolant system is optional

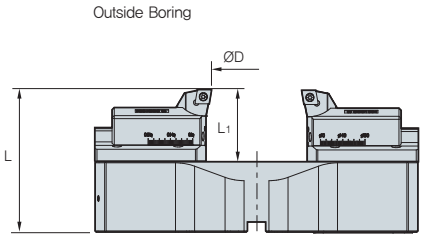
Parts

Basic			For separate purchase				
Head set	Bridge	Rail	Cartridge	Bite	Balance block	Arbor	Pin
							
TBC130A	DBB130	DBR130	FCC130	FBB130△□□	FCB130	BT50-FMC40-50	PN1080
TBC175A	DBB175	DBR175					
TBC220A	DBB220	DBR07015					
TBC265A	DBB265	DBR07015					
TBC310A	DBB310	DBR10015	FCC310		FCB310		
TBC385A	DBB385	DBR10015					
TBC460A	DBB460	DBR10015					
TBC535A	DBB535	DBR10015					

TBCA

Wide diameter boring system





(mm)

FMC Arbor (Individual order)	kg	Step Boring for Roughing							
		TBC Head set (Rail + Cartridge (Separate sale))	L	Boring range ØD					kg
				Inside Boring		Outside Boring			
				Min	Max	Min	Max	L_1	
BT50-FMC40-50	4.6	TBC130A (DBR130 + DBS25-□□CA + SCGCL16CA-12)	108	130	180	0	13.5	65	4.3
BT50-FMC40-50	4.6	TBC175A (DBR175 + DBS25-□□CA + SCGCL16CA-12)	113	175	225	0	55	65	5.7
BT50-FMC40-50	4.6	TBC220A (DBR07015 + DBS25-□□CA + SCGCL16CA-12)	118	220	270	64	128	65	7.8
BT50-FMC40-50	4.6	TBC265A (DBR07015 + DBS25-□□CA + SCGCL16CA-12)	123	265	315	68	118	65	7.9
BT50-FMC40-50	4.6	TBC310A (DBR10015 + DBS40-□□CA + SCGCL16CA-12)	128	310	390	109	159	65	10.2
BT50-FMC40-50	4.6	TBC385A (DBR10015 + DBS40-□□CA + SCGCL16CA-12)	133	385	465	183	233	65	12.3
BT50-FMC40-50	4.6	TBC460A (DBR10015 + DBS40-□□CA + SCGCL16CA-12)	138	460	540	259	309	65	14.8
BT50-FMC40-50	4.6	TBC535A (DBR10015 + DBS40-□□CA + SCGCL16CA-12)	143	535	615	333	383	65	16.9

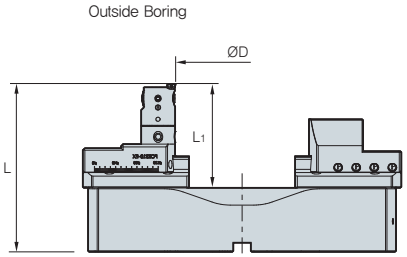
• TBC Head set/Rail: Basic, Arbor/Cartridge: For separate purchase • Through coolant system is optional

Parts

Basic				For separate purchase				
Head set	Bridge	Rail	Cartridge	Arbor	Slide	Cartridge	Plate	Pin
								
TBC130A	DBB130	DBR130	BCC1348S	BT50-FMC40-50	DBS25-16CA DBS25-20CA DBS25-25CA	ISO Cartridge	ISO Cartridge Plates	PN1080
TBC175A	DBB175	DBR175	BCC1348S					
TBC220A	DBB220	DBR07015	BCC1348S					
TBC265A	DBB265	DBR07015	BCC1348S					
TBC310A	DBB310	DBR10015	BCC1354S		DBS40-16CA DBS40-20CA DBS40-25CA			
TBC385A	DBB385	DBR10015	BCC1354S					
TBC460A	DBB460	DBR10015	BCC1354S					
TBC535A	DBB535	DBR10015	BCC1354S					

TBCA

Wide diameter boring system



(mm)

FMC Arbor (Individual order)	kg	Step Boring for Roughing					
		TBC Head set (Rail + Cartridge (Separate sale))	L	Boring range ØD			kg
				Outside Boring			
				Min	Max	L_1	
BT50-FMC40-50	4.6	TBC130A (DBR130 + FCB130 + FCE130 + FBH3233B + FBB33N)	145	0	39	102	5.2
BT50-FMC40-50	4.6	TBC175A (DBR175 + FCB130 + FCE130 + FBH3233B + FBB33N)	150	0	84	102	6.5
BT50-FMC40-50	4.6	TBC220A (DBR07015 + FCB130 + FCE130 + FBH3233B + FBB33N)	155	26	180	102	8.7
BT50-FMC40-50	4.6	TBC265A (DBR07015 + FCB130 + FCE130 + FBH3233B + FBB33N)	160	26	180	102	8.7
BT50-FMC40-50	4.6	TBC310A (DBR10015 + FCB310 + FCE310 + FBH3233B + FBB33N)	165	16	170	102	11
BT50-FMC40-50	4.6	TBC385A (DBR10015 + FCB310 + FCE310 + FBH3233B + FBB33N)	170	90	244	102	13.1
BT50-FMC40-50	4.6	TBC460A (DBR10015 + FCB310 + FCE310 + FBH3233B + FBB33N)	175	166	318	102	15.6
BT50-FMC40-50	4.6	TBC535A (DBR10015 + FCB310 + FCE310 + FBH3233B + FBB33N)	180	240	394	102	17.7

• TBC Head set/Rail: Basic, Arbor/Cartridge: For separate purchase • Through coolant system is optional

Parts

Basic			For separate purchase				
Head set	Bridge	Rail	Arbor	Slide	B/B	Head	Pin
							
TBC130A	DBB130	DBR130	BT50-FMC40-50	FCE130	FCB130	FBH3233B	PN1080
TBC175A	DBB175	DBR175					
TBC220A	DBB220	DBR07015					
TBC265A	DBB265	DBR07015					
TBC310A	DBB310	DBR10015		FCE310	FCB310		
TBC385A	DBB385	DBR10015					
TBC460A	DBB460	DBR10015					
TBC535A	DBB535	DBR10015					

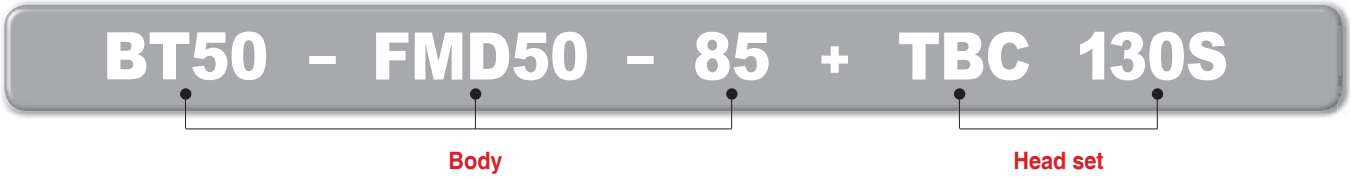
• B/B: Balance Block

Balance cut tool for Rough boring

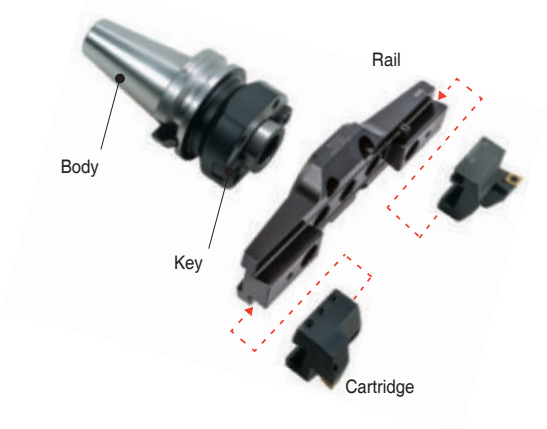
TBC

- Wide boring range for big diameters: Ø130~Ø540 mm
- Stable structure against for cutting load - Assembly by dove-tail structure
- Interconvert with FBC
  - Common boring head and rail adopted, different cartridge
- Light-weight (5%~20% reduced)
- Various cartridge approach angle: 15°, 45°

Code system



TBC boring tool structure & features



Cartridge: BCC1348
Insert: CCMT1204□□
CNMG1204□□

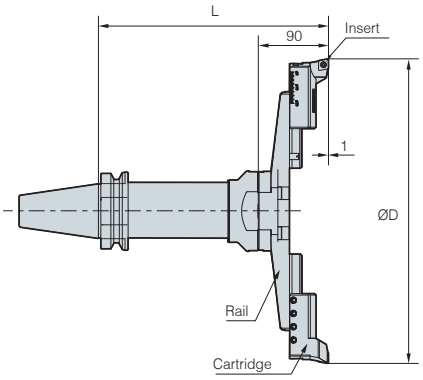
Rail: TBR□□
Weight reduced and space for chip discharge secured by removing the side part

Boring range

Grade	Dia (Ø)		Head set	Insert
	Min	Max		
TBC130	130	180	TBC130 (TBR130 + BCC1348 + BCC1348)	CCMT1204□□
TBC175	175	225	TBC175 (TBR175 + BCC1348 + BCC1348)	CCMT1204□□
TBC220	220	270	TBC220 (TBR220 + BCC1348 + BCC1348)	CCMT1204□□
TBC265	265	315	TBC265 (TBR265 + BCC1348 + BCC1348)	CCMT1204□□
TBC310	310	390	TBC310 (TBR310 + BCC1348 + BCC1348)	CCMT1204□□
TBC385	385	465	TBC385 (TBR310 + BCC1348 + BCC1348)	CCMT1204□□
TBC460	460	540	TBC460 (TBR460 + BCC1348 + BCC1348)	CCMT1204□□

BT-TBC

Balance cut tool for rough boring



(mm)

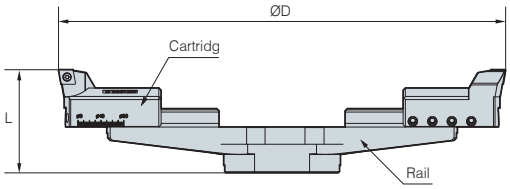
FMC Arbor (Individual order)	kg	Rough boring (TBC)				
		TBC Head set (Rail + Cartridge)	L	Boring range ØD		kg
				Min	Max	
BT50-FMD50-85	5.9	TBC130 (TBR130 + BCC1348)	175	130	180	3.2
BT50-FMD50-155	7.9	TBC130 (TBR130 + BCC1348)	245	130	180	3.2
BT50-FMD50-205	9.7	TBC130 (TBR130 + BCC1348)	295	130	180	3.2
BT50-FMD50-255	13.4	TBC130 (TBR130 + BCC1348)	345	130	180	3.2
BT50-FMD50-85	5.9	TBC175 (TBR175 + BCC1348)	175	175	225	3.6
BT50-FMD50-155	7.9	TBC175 (TBR175 + BCC1348)	245	175	225	3.6
BT50-FMD50-205	9.7	TBC175 (TBR175 + BCC1348)	295	175	225	3.6
BT50-FMD50-255	13.4	TBC175 (TBR175 + BCC1348)	345	175	225	3.6
BT50-FMD50-85	5.9	TBC220 (TBR220 + BCC1348)	175	220	270	4
BT50-FMD50-155	7.9	TBC220 (TBR220 + BCC1348)	245	220	270	4
BT50-FMD50-205	9.7	TBC220 (TBR220 + BCC1348)	295	220	270	4
BT50-FMD50-255	13.4	TBC220 (TBR220 + BCC1348)	345	220	270	4
BT50-FMD50-85	5.9	TBC265 (TBR265 + BCC1348)	175	265	315	4.2
BT50-FMD50-155	7.9	TBC265 (TBR265 + BCC1348)	245	265	315	4.2
BT50-FMD50-205	9.7	TBC265 (TBR265 + BCC1348)	295	265	315	4.2
BT50-FMD50-255	13.4	TBC265 (TBR265 + BCC1348)	345	265	315	4.2
BT50-FMD50-85	5.9	TBC310 (TBR310 + BCC1354)	175	310	390	5.2
BT50-FMD50-155	7.9	TBC310 (TBR310 + BCC1354)	245	310	390	5.2
BT50-FMD50-205	9.7	TBC310 (TBR310 + BCC1354)	295	310	390	5.2
BT50-FMD50-255	13.4	TBC310 (TBR310 + BCC1354)	345	310	390	5.2
BT50-FMD50-85	5.9	TBC385 (TBR385 + BCC1354)	175	385	465	5.5
BT50-FMD50-155	7.9	TBC385 (TBR385 + BCC1354)	245	385	465	5.5
BT50-FMD50-205	9.7	TBC385 (TBR385 + BCC1354)	295	385	465	5.5
BT50-FMD50-255	13.4	TBC385 (TBR385 + BCC1354)	345	385	465	5.5
BT50-FMD50-85	5.9	TBC460 (TBR460 + BCC1354)	175	460	540	12.5
BT50-FMD50-155	7.9	TBC460 (TBR460 + BCC1354)	245	460	540	12.5
BT50-FMD50-205	9.7	TBC460 (TBR460 + BCC1354)	295	460	540	12.5
BT50-FMD50-255	13.4	TBC460 (TBR460 + BCC1354)	345	460	540	12.5

Spare Part G81

• TBC Head set: Basic, Arbor: For separate purchase • Through coolant system is not available

TBC Head Set

Balance cut tool for rough boring



(mm)

Head set (Main component)			Boring range ØD		L	kg	For separate purchase
Designation	Rail	Cartridge	Min	Max			Insert
TBC130S	TBR130	BCC1348	130	180	90	3.5	CCMT1204□□
TBC175S	TBR175	BCC1348	175	225	90	3.9	CCMT1204□□
TBC220S	TBR220	BCC1348	220	270	90	4.3	CCMT1204□□
TBC265S	TBR265	BCC1348	265	315	90	4.5	CCMT1204□□
TBC310S	TBR310	BCC1354	310	390	90	5.5	CCMT1204□□
TBC385S	TBR385	BCC1354	385	465	90	5.8	CCMT1204□□
TBC460S	TBR460	BCC1354	460	540	90	12.8	CCMT1204□□

* If CNMG1204□□ insert is used, BCN1348, BCN1354 cartridges can be ordered.

Parts

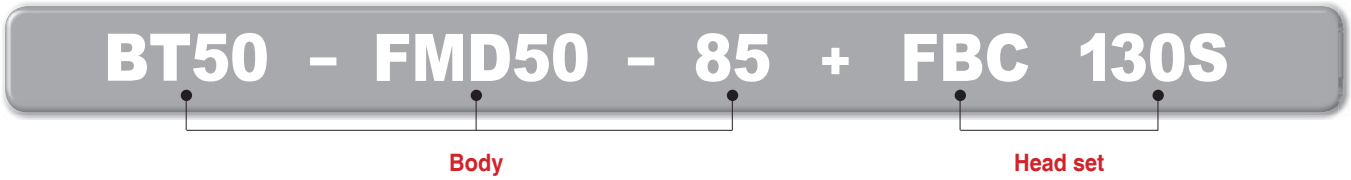
Basic							
Division	Rail	Cartridge	Clamp bolt	Clamp bolt	Hexagonal wrench	Clamp screw	Torx wrench
Parts / Head set							
TBC130S	TBR130	BCC1348 (BCN1348)	BX0820	BT0645	LW-3 LW-4 LW-6	BFTX0511N	TRX20
TBC175S	TBR175						
TBC220S	TBR220						
TBC265S	TBR265						
TBC310S	TBR310	BCC1354 (BCN1354)		BT0660			
TBC385S	TBR385						
TBC460S	TBR460						

Balance cut tool for fine boring

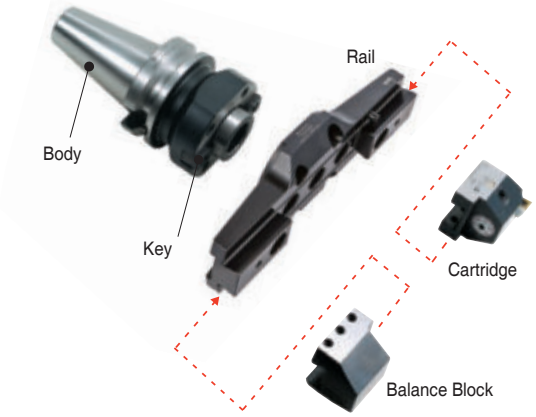
FBC

- Broad boring diameter and range
  - Wide Boring Range: Ø130~Ø540 mm
- Structurally stable enough to resist cutting load
  - Provides strong cutting performance based on the precision grinding dovetail method
- Can perform rough boring operation by changing boring head cartridges
  - Compatible boring head and rail as they are in the same structure
- Various cartridge tip angles
  - cartridge fore end angles 15° and 45° selectable

Code system



FBC boring tool structure & features



Cartridge:
FCC130

Balance Block:
FCB130

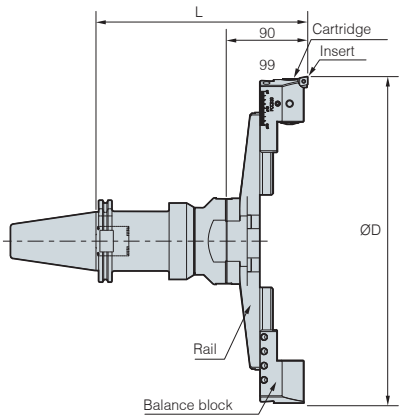
Insert:
CCGT09T3□□
CCMT1204□□
TPGT1103□□

Boring range

Designation	Dia (Ø)		Head set	Insert
	Min	Max		
FBC130	130	180	FBC130S (TBR130 + FCC130 + FCB130)	FBB130-C09 (CCMT09T3□□, CCGT09T3□□ FBB130-C12 (CCMT1204□□) FBB130-T11 (TPMT1103□□,TPGT1103□□L)
FBC175	175	225	FBC175S (TBR175 + FCC130 + FCB130)	
FBC220	220	270	FBC220S (TBR220 + FCC130 + FCB130)	
FBC265	265	315	FBC265S (TBR265 + FCC130 + FCB130)	
FBC310	310	390	FBC310S (TBR310 + FCC310 + FCB310)	
FBC385	385	465	FBC385S (TBR385 + FCC310 + FCB310)	
FBC460	460	540	FBC460S (TBR460 + FCC310 + FCB310)	

BT-FBC

Balance cut tool for fine boring



(mm)

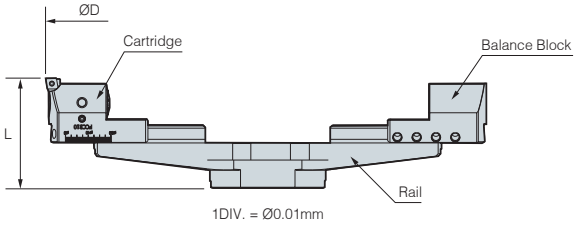
FMC Arbor (Individual order)	kg	Rough boring (TBC)				
		TBC Head set (Rail + Cartridge + Balance block)	L	Boring range (ØD)		kg
				Min	Max	
BT50-FMD50-85	5.9	FBC130S (TBR130 + FCC130 + FCB130)	182	130	180	3.7
BT50-FMD50-155	7.9	FBC130S (TBR130 + FCC130 + FCB130)	252	130	180	3.7
BT50-FMD50-205	9.7	FBC130S (TBR130 + FCC130 + FCB130)	302	130	180	3.7
BT50-FMD50-255	13.4	FBC130S (TBR130 + FCC130 + FCB130)	352	130	180	3.7
BT50-FMD50-85	5.9	FBC175S (TBR175 + FCC130 + FCB130)	182	175	225	4.1
BT50-FMD50-155	7.9	FBC175S (TBR175 + FCC130 + FCB130)	252	175	225	4.1
BT50-FMD50-205	9.7	FBC175S (TBR175 + FCC130 + FCB130)	302	175	225	4.1
BT50-FMD50-255	13.4	FBC175S (TBR175 + FCC130 + FCB130)	352	175	225	4.1
BT50-FMD50-85	5.9	FBC220S (TBR220 + FCC130 + FCB130)	182	220	270	4.5
BT50-FMD50-155	7.9	FBC220S (TBR220 + FCC130 + FCB130)	252	220	270	4.5
BT50-FMD50-205	9.7	FBC220S (TBR220 + FCC130 + FCB130)	302	220	270	4.5
BT50-FMD50-255	13.4	FBC220S (TBR220 + FCC130 + FCB130)	352	220	270	4.5
BT50-FMD50-85	5.9	FBC265S (TBR265 + FCC130 + FCB130)	182	265	315	4.7
BT50-FMD50-155	7.9	FBC265S (TBR265 + FCC130 + FCB130)	252	265	315	4.7
BT50-FMD50-205	9.7	FBC265S (TBR265 + FCC130 + FCB130)	302	265	315	4.7
BT50-FMD50-255	13.4	FBC265S (TBR265 + FCC130 + FCB130)	352	265	315	4.7
BT50-FMD50-85	5.9	FBC310S (TBR310 + FCC310 + FCB310)	182	310	390	5.5
BT50-FMD50-155	7.9	FBC310S (TBR310 + FCC310 + FCB310)	252	310	390	5.5
BT50-FMD50-205	9.7	FBC310S (TBR310 + FCC310 + FCB310)	302	310	390	5.5
BT50-FMD50-255	13.4	FBC310S (TBR310 + FCC310 + FCB310)	352	310	390	5.5
BT50-FMD50-85	5.9	FBC385S (TBR385 + FCC310 + FCB310)	182	385	465	5.8
BT50-FMD50-155	7.9	FBC385S (TBR385 + FCC310 + FCB310)	252	385	465	5.8
BT50-FMD50-205	9.7	FBC385S (TBR385 + FCC310 + FCB310)	302	385	465	5.8
BT50-FMD50-255	13.4	FBC385S (TBR385 + FCC310 + FCB310)	352	385	465	5.8
BT50-FMD50-85	5.9	FBC460S (TBR460 + FCC310 + FCB310)	182	460	540	12.8
BT50-FMD50-155	7.9	FBC460S (TBR460 + FCC310 + FCB310)	252	460	540	12.8
BT50-FMD50-205	9.7	FBC460S (TBR460 + FCC310 + FCB310)	302	460	540	12.8
BT50-FMD50-255	13.4	FBC460S (TBR460 + FCC310 + FCB310)	352	460	540	12.8

Spare Part G84

• TBC Head set: Basic, Arbor: For separate purchase • Through coolant system not available

FBC Head Set

Balance cut tool for fine boring



(mm)

Head set (Main component)				Boring range ØD		L	kg	For separate purchase
Designation	Rail	Cartridge	Balance block	Min	Max			Bite
TBC130S	TBR130	FCC130	FCB130	130	180	97	3.8	FBB130-C09 FBB130-C12 FBB130-T11
TBC175S	TBR175	FCC130	FCB130	175	225	97	4.1	
TBC220S	TBR220	FCC130	FCB130	220	270	97	4.5	
TBC265S	TBR265	FCC130	FCB130	265	315	97	4.6	
TBC310S	TBR310	FCC310	FCB310	310	390	97	5.5	
TBC385S	TBR385	FCC310	FCB310	385	465	97	5.8	
TBC460S	TBR460	FCC310	FCB310	460	540	97	12.8	

Parts

Basic							For separate purchase
Division	Rail	Cartridge	Balance block	Clamp bolt	Clamp bolt	Hexagonal wrench	Bite
Parts / Head set							
FBC130S	TBR130	FCC130	FCB130	BTF0810 BTF0814	BT0645	LW-3 LW-4	FBB130-C09 FBB130-C12 FBB130-T11
FBC175S	TBR175						
FBC220S	TBR220						
FBC265S	TBR265						
FBC310S	TBR310	FCC310	FCB310		BT0660		
FBC385S	TBR385						
FBC460S	TBR460						

FBB Bite

Designation		Insert
FBB130 -	**C09**	CCMT09T3□□, CCGT09T3□□
	C12	CCMT1204□□
	T11	TPMT1103□□, TPGT1103□□

Slim Angular Head

BT-SAH

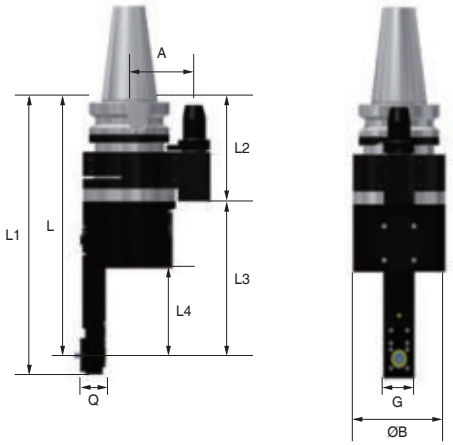
- Angular head for narrow inside boring
  (min. inner diameter of workpiece: Ø40, min. boring width: 32 mm)
- MAX 3,500 RPM, Spindle: applied rotation ratio = 1:1.37
- Boring range: Ø3, Ø4, Ø6

Code system

BT50 - SAH 6 - 10

- BT50 — Spindle
- SAH — Slim Angular head
- 6 — Tool Dia.
- 10 — Length

Details



Machining Features

Min. Ø40 Hole
(except tool projection)

Min.32mm gap
(except tool projection)

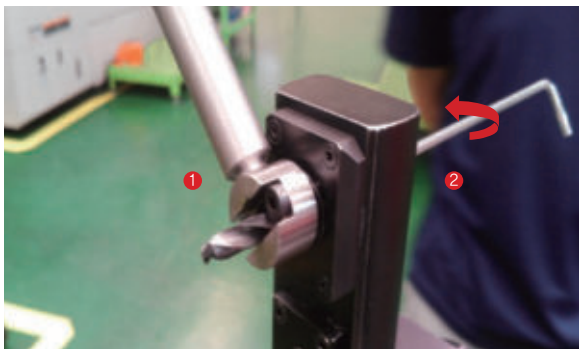
Designation	L	L1	L2	L3	L4	A	Q	G	ØB	Rotation ratio (IN:OUT)	Rotation direction	MAX RPM	kg
BT50-SAH6-277	277	298	183.5	166.5	93.5	80 (110)	31.5	40	76	1:1.37	CW:CW	3,500	14

Clamping Force

Division	Measurement	Measured value (N-m)			
Clamp torque	2	2.5	3	3.5	4
Clamping Force	Not measurable	5.5	6.5	7	7

※ The moderate clamp torque of collet is 3.5N-m.

How to clamp



1. Couple the tool with SAH dedicated collet
2. Insert the coupled tool into SAH and fix it with a dedicated tightening jig
3. Turn the bolt using a hexagonal wrench

Exclusive collet

Designation	Clamping range
SAH6-C3	3
SAH6-C4	4
SAH6-C6	6

ANGULAR HEAD

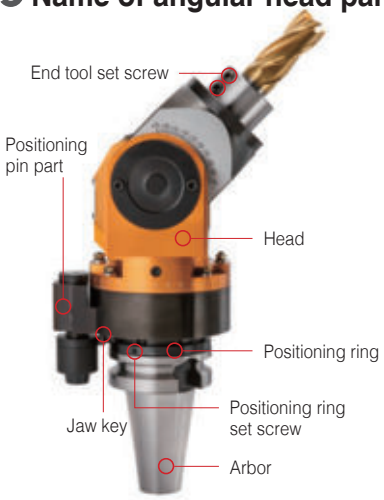
ANGULAR HEAD

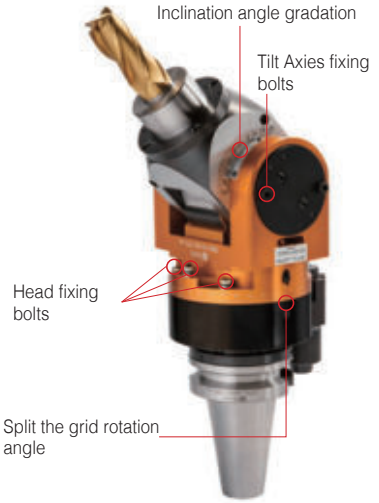
- Doubled effect by one equipment/Available for various angles
- Lighter aluminum body

Code system

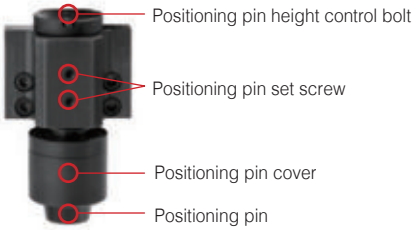
BT50	-	KHU	10	-	195
Spindle		Angular Head	Max. chucking dia.		Length

Name of angular head parts

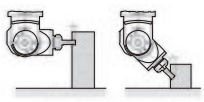
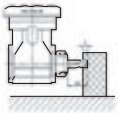
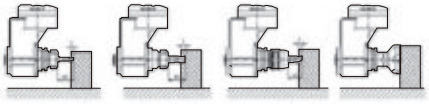




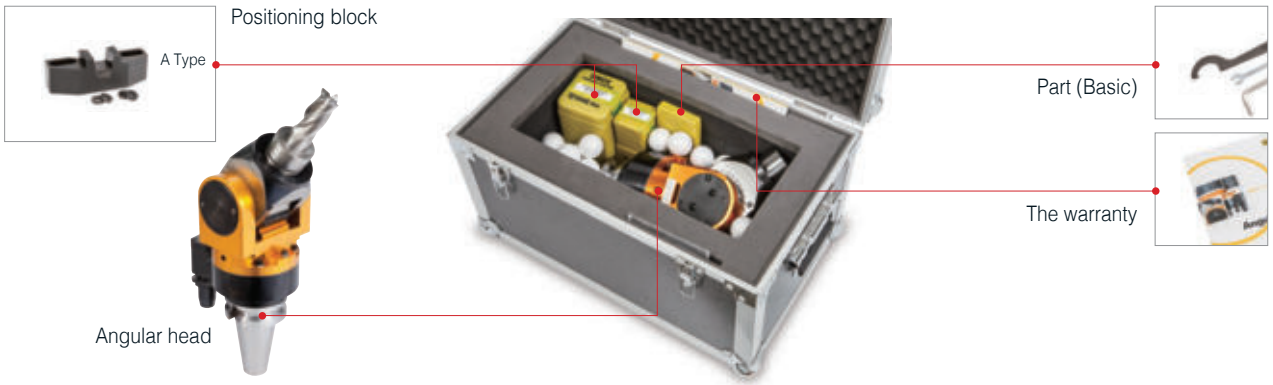
Positioning pin details



Various applications

			
0~90-degree rotating (MAH, KHU)	Fixed 90-degree type (KAH)	Fixed 45-degree type (KAC)	Attachment type (HRAG, KAG)

Components



MAH

Universal type MAH (Reinforced series)

• Reinforced type Better performance by improving existing universal Angular head

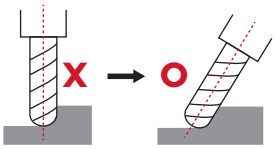
- Stability on large mold machining
- Use 32mm Ball Endmill

KHU

Universal type KHU (Free angle)

• Adjustable angle-type angular head that enables flexible machining

- Wide vertical (0˚~90˚) and horizontal (0˚~360˚) machining angle range
- To use Tap-exclusive collet, please contact us in advance
- HSK and SK types are customizable



Be sure to give a slope to the cutting edge of a ball end mill when machining it as the ball end mill edge is worn out and the surface roughness of the workpiece becomes defective

HRAG

Attachment type HRAG (Reinforced type)

• HRAG: The reinforced bracket enhanced durability upto 200%

- Stablility on face milling machining
- Enhances compatibility with the machining device due to easy bracket disassembly/ assembly even on the BT50 shank
- Improves product life cycle

KAG

Attachment type KAG

• Free 360° angle adjusting from side to side

- Possible to use various tools of BT40 and BT30
- HSK and SK type are order made
- Coolant types are to be ordered separately

KAH

Modular type KAH (90° type)

• Adjustable angle-type angular head that enables flexible machining

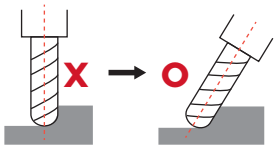
- Adjusting angle up to 360˚
- To use Tap-exclusive Collet, please contact us in advance
- HSK and SK type are order made

KAC

Modular type KAC (45° type)

• Fixed angle type angular head that enables flexible machining

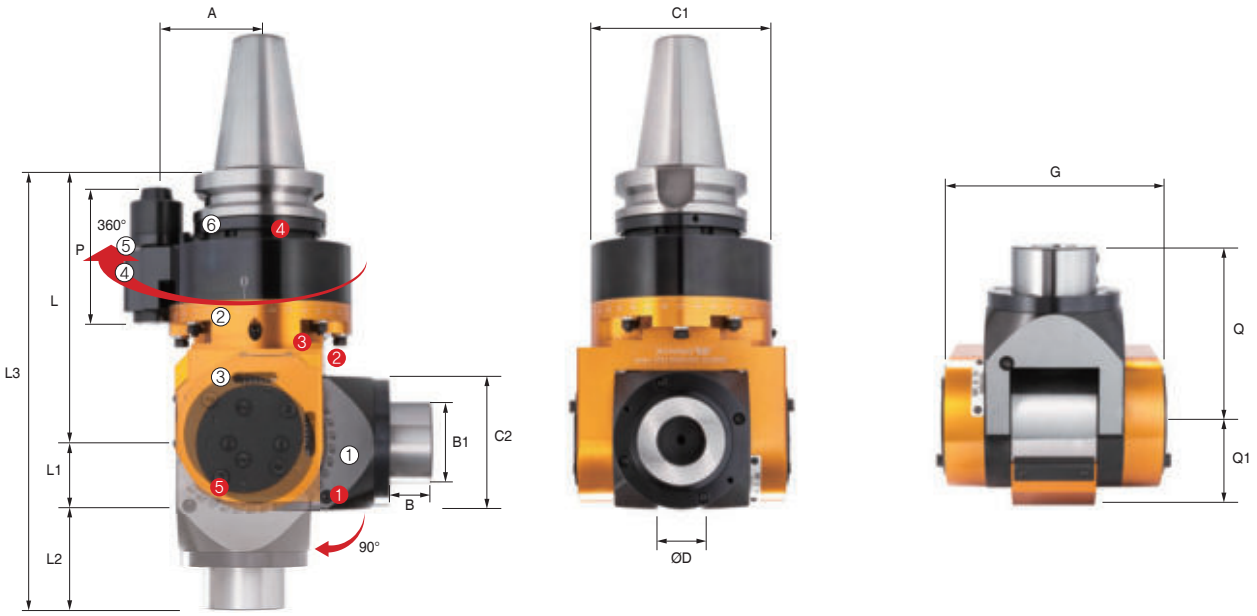
- Adjusting angle up to 360˚
- To use Tap-exclusive Collet, please contact us in advance
- 45-degree fixed type angular head
- For BT40 types, please contact us separately



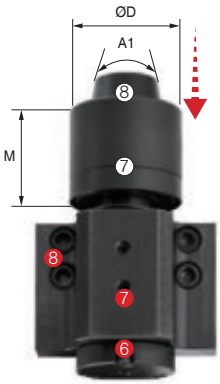
Be sure to give a slope to the cutting edge of a ball end mill when machining it as the ball end mill edge is worn out and the surface roughness of the workpiece becomes defective

MHA for mold (0°~90°)_Reinforced type

BT-MAH



Positioning pin



Shank size	M	A1	ØD
BT50	56.5	20°	Ø40

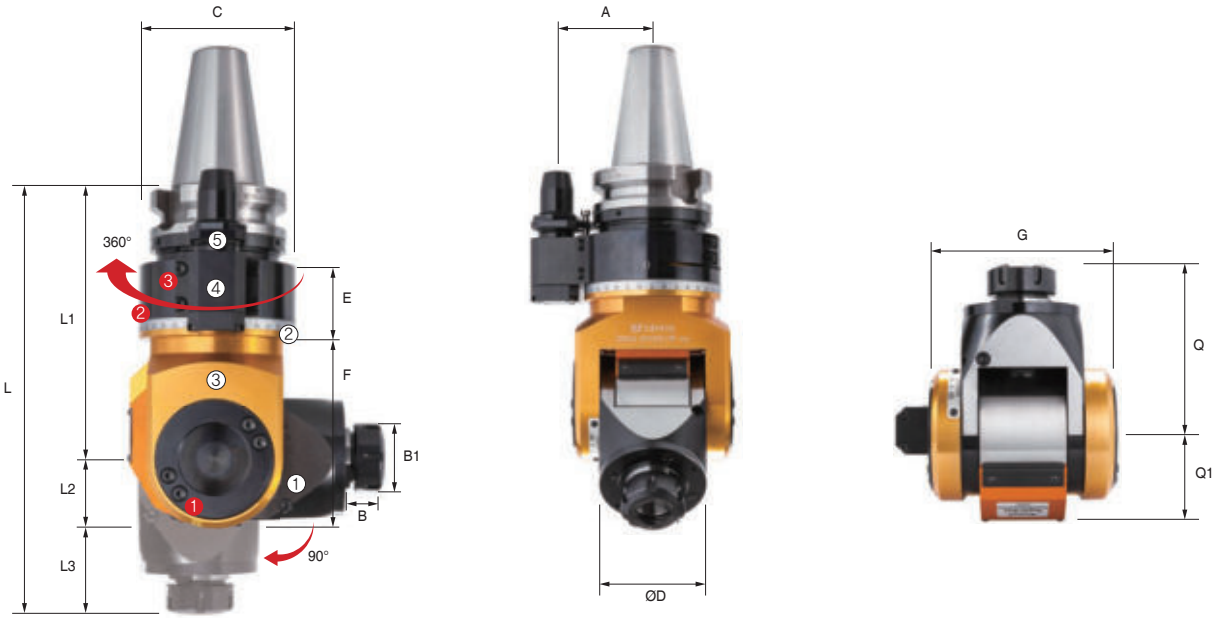
NO	Name
①	Inclination angle gradation (Axial positioning in 0°~90°)
②	Rotating angle graduation (Free radius position in 360°)
③	Head
④	Positioning pin part
⑤	Jaw key
⑥	Positioning ring
⑦	Positioning pin cover
⑧	Positioning pin

NO	Part name	Designation
1	Inclination angle gradation screw	BT1216
2	Head fixed bolts	BT0645
3	Rotating angle graduation screw	BT0640
4	Positioning ring set screw	MSST5-12
5	Tilt Axies fixing bolt	BH0616
6	Positioning pin height control bolt	BT0516
7	Positioning pin set screw	BT0512
8	Body position block set screw	BX0516

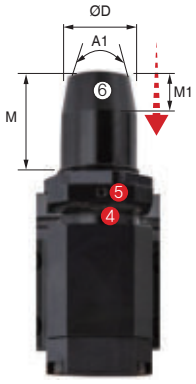
Designation	ØD	L	L1	L2	L3	C	C1	G	C2	Q	Q1	B	B1	P	A	Max RPM	Install tool	kg
BT50-MAH32-200	32	200	47	78	325	136	95	154	95	125	63	31	60	95	80	3,000	SIDE LOCK	19.6

KHU (0°~90°)_Collet type

BT-KHU



Positioning pin



Shank size	M	M1	A	ØD
BT40	Max: 32 Min: 26	10	20°	Ø19.6

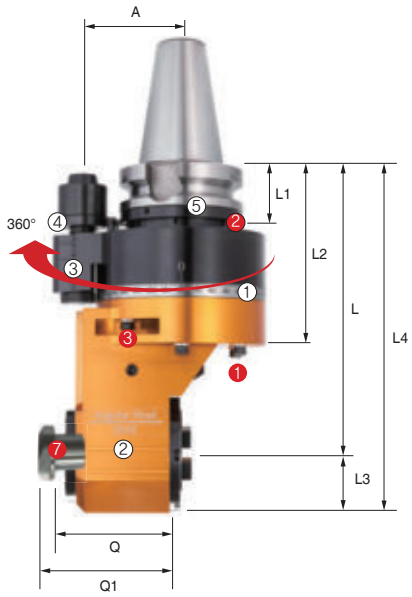
NO	Name
①	Inclination angle gradation (Axial positioning in 0°~90°)
②	Rotating angle graduation (Free radius position in 360°)
③	Head
④	Positioning pin part
⑤	Jaw key
⑥	Height control wrench hole

NO	Part name	Designation
1	Tilt Axies fixing bolt	BH0630
2	Bracket angle fixing bolt	BX0630
3	Position block fixing bolt	BX0512
4	Set screw	BT0404
5	Fixing bolts	BX05630

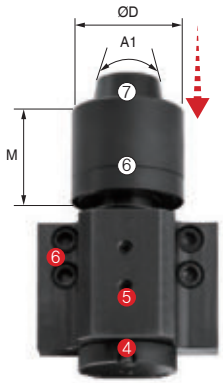
Designation	ØD	ØD1	L	L1	L2	L3	B	B1	E	F	C	A	G	Q	Q1	Torque rate (IN:OUT)	Direction of rotation (IN:OUT)	Max RPM	Collet	kg
BT40-KHU10-160	1.0~10.0	58	247	160	33	54	22	28	51	98	96	65	90	87	40	1:2	CW:CW	6,000	GER16	8.3
BT50-KHU10-180	1.0~10.0	84	267	180	33	54	22	28	53	103	114	80	90	87	40	1:2	CW:CW	6,000	GER16	11.5
BT50-KHU20-195	1.0~20.0	84	315	195	47	73	29	50	53	132	114	80	124	120	63	1:1	CW:CW	3,000	GER32	17.9

HRAG (90° fixed)_Reinforced type

BT-HRAG



Positioning pin



Shank size	M	A1	ØD
BT50	56.5	20°	Ø40

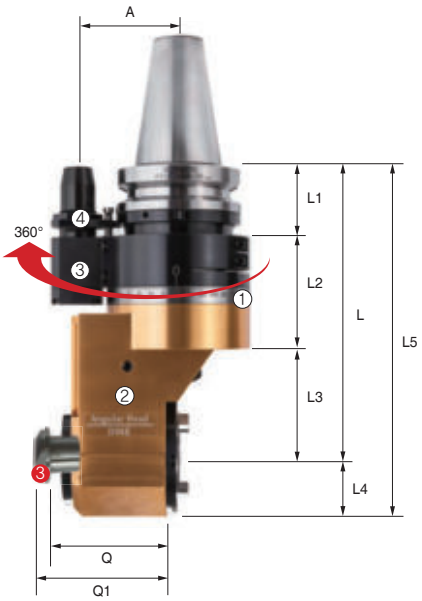
NO	Name
①	Rotating angle graduation (Free radius position in 360°)
②	Head
③	Positioning pin part
④	Jaw key
⑤	Positioning ring
⑥	Positioning pin cover
⑦	Positioning pin

NO	Part name	Designation
1	Head fixed bolts	BX0660
2	Positioning ring set screw	MSST5-12
3	Rotating angle graduation screw	BT0648
4	Positioning pin height control bolt	BT0516
5	Positioning pin set screw	BT0512
6	Body position block set screw	BX0516
7	BT/NT Bolt	

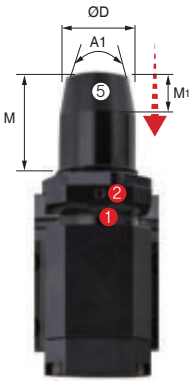
Designation	L	L1	L2	L3	L4	Q	Q1	A	G	G1	Max RPM	Tool shank	kg
BT50-HRAG40-230	230	56.5	145	46.5	276.5	89	101	80	93	136	3000	BT/NT40	18.2

KAG (90° fixed type)

BT-KAG



Positioning pin



Shank size	M	M1	A1	ØD
BT40	Max: 32 Min: 26	10	20°	Ø19.6
BT50	Max: 35 Min: 29	15	20°	Ø28

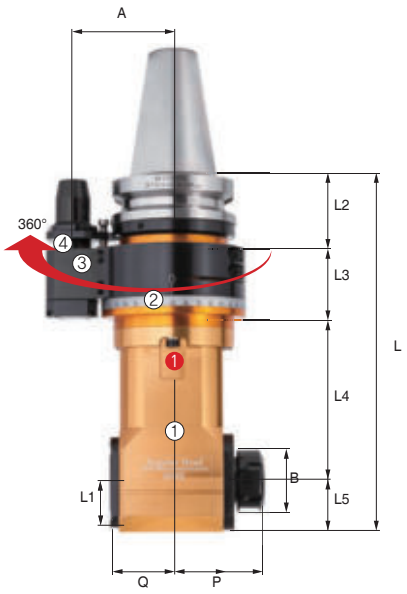
NO	Name
①	Rotating angle graduation (Free radius position in 360°)
②	Head
③	Positioning pin part
④	Jaw key
⑤	Height control wrench hole

NO	Part name	Designation
❶	Set screw	BT0404
❷	Fixing bolts	BX50630
❸	BT / NT Bolt	

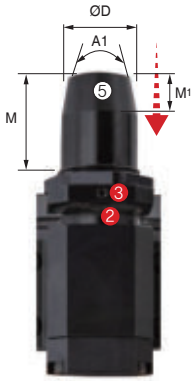
Designation	L	L1	L2	L3	L4	L5	Q	Q1	A	C	G	Torque rate (IN:OUT)	Direction of rotation (IN:OUT)	MAX RPM	Holder shank	kg
BT40-KAG30-195	195	44	86	65	37.5	232.5	66	70	65	96	75	1:1	CW:CW	4,000	BT30/NT30	6.4
BT50-KAG40-230	230	57	88	85	46.5	276.5	89	94	80	114	93	1:1	CW:CW	3,000	BT40/NT40	15.8

HRAG (90° fixed)_Collet type

BT-KAH



Positioning pin



Shank size	M	M1	A1	ØD
BT40	Max: 32 Min: 26	10	20°	Ø19.6
BT50	Max: 35 Min: 29	15	20°	Ø28

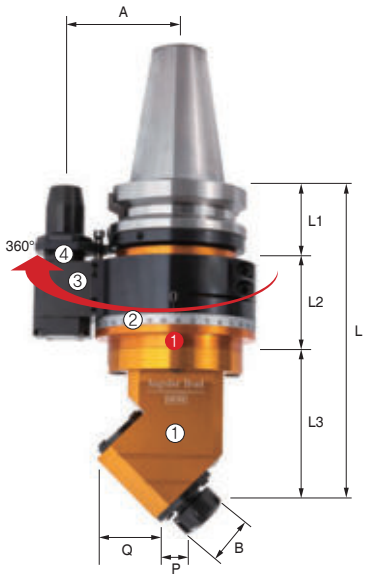
NO	Name
①	Head
②	Rotating angle graduation (Free radius position in 360°)
③	Positioning pin part
④	Jaw key
⑤	Height control wrench hole

NO	Part name	Designation
1	Head fixing bolts	BX0618
2	Set screw	BT0404
3	Fixing bolts	BX50630

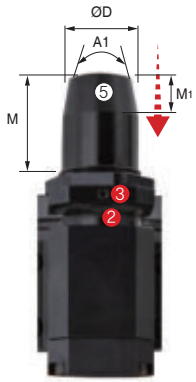
Designation	ØD	L	L1	L2	L3	L4	L5	B	A	P	Q	G	G1	Torque rate (IN:OUT)	Max RPM	Collet	kg
BT40-KAH7-170	1.0~7.0	190	20	44	71	55	20	19	65	37	24.5	40	96	1:1	5,000	GER11	4.6
BT40-KAH10-195	1.0~10.0	220	25	44	71	80	25	28	65	46	32	58	96	1:1	5,000	GER16	5.8
BT40-KAH13-165	1.0~13.0	193	28	44	71	50	28	35	65	53	35	60	96	1:1	5,000	GER20	5.7
BT40-KAH20-180	2.0~20.0	218	38	44	71	65	38	50	65	71	49	76	96	1:1	3,500	GER32	6.7
BT50-KAH07-220	1.0~7.0	240	20	57	54	109	20	19	80	37	24.5	40	96	1:1	5,000	GER11	9.8
BT50-KAH10-215	1.0~10.0	240	25	57	54	104	25	28	80	46	32	58	96	1:1	5,000	GER16	10.7
BT50-KAH10-260	1.0~10.0	285	25	57	54	149	25	28	80	46	32	58	96	1:1	5,000	GER16	11.0
BT50-KAH13-260	1.0~13.0	288	28	57	54	149	28	35	80	53	35	60	96	1:1	5,000	GER20	11.2
BT50-KAH20-200	2.0~20.0	238	38	57	54	89	38	50	80	71	49	76	96	1:1	3,500	GER32	11.6
BT50-KAH20-240	2.0~20.0	278	38	57	54	129	38	20	80	71	49	76	96	1:1	3,500	GER32	12.4

KAC (45° fixed)_Collet type

BT-KAC



Positioning pin



Shank size	M	M1	A1	ØD
BT40	Max: 32 Min: 26	10	20°	Ø19.6
BT50	Max: 35 Min: 29	15	20°	Ø28

NO	Name
①	Head
②	Rotating angle graduation (Free radius position in 360°)
③	Positioning pin part
④	Jaw key
⑤	Height control wrench hole

NO	Part name	Designation
1	Head fixing bolts	BX0618
2	Set screw	BT0404
3	Fixing bolts	BXS0630

Designation	ØD	L	L1	L2	L3	B	G	G1	P	Q	A	Max RPM	Collet	kg
BT50-KAC10-240	1.0~10.0	240	57	54	129	28	60	96	25	54	80	5,000	GER16	9.7
BT50-KAC13-240	1.0~13.0	240	57	54	129	28	60	96	25	54	80	5,000	GER20	10.7
BT50-KAC20-250	2.0~20.0	240	57	54	139	50	72	96	30	60	80	3,500	GER32	11.7

Zero fit collet

DZC

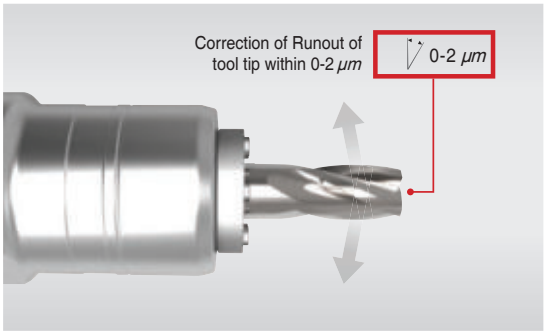
Correcting 10 - 20 *μm* runout generated at tool tip to 0-2 *μm*

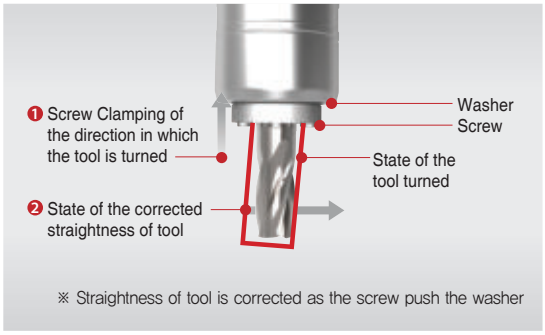
- Improves the runout and straightness of end tools
- Improves the surface roughness and quality of the machining area
- Improves the accuracy of boring hole dimension
- Improves the tool life of end tools

Code system

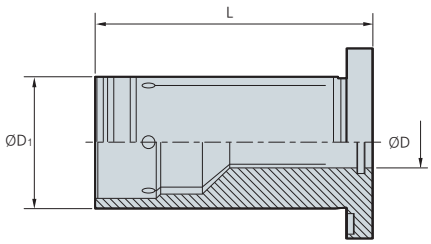
DZC	20	-	10
Zero Fit Collet	Collet size		Tool Dia.

Features





DZC



(mm)

Designation	ØD	ØD1	L
DZC20-6	20	6	56.5
DZC20-8	20	8	56.5
DZC20-10	20	10	56.5
DZC20-12	20	12	56.5
DZC20-14	20	14	56.5
DZC20-16	20	16	56.5
DZC32-6	32	6	67.5
DZC32-8	32	8	67.5
DZC32-10	32	10	67.5
DZC32-12	32	12	67.5
DZC32-16	32	16	67.5
DZC32-20	32	20	67.5
DZC32-25	32	25	67.5

• Through coolant system not available

Jetcoolant collet (for milling chuck)

DCJ

- Ensures a longer service life of cutting tools by preventing chips from adhering to tools
- Improveds chip breakability/breaking strong jet injection
- Maintains the performance of the conventional milling chuck
- Enables a fast change of the inside jet coolant by collet replacement
- Available an ultrahigh-pressure inside coolant

Designation	Ø6	Ø8	Ø10	Ø12	Ø16	Ø20	Ø25	Ø32
NPM20	●	●	●	●	●			
NPM32	●	●	●	●	●	●	●	
NPM42	●	●	●	●	●	●	●	●

• Can be used for an ultrahigh–pressure inside coolant

NPM + Jet coolant Collet

Cutting

Chip discharge

Quick cooling effect

Increased tool service life

Easy assembly

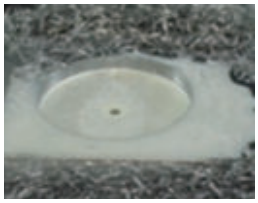
※ Can be used by only combining a collet with the conventional chuck (NPM)

Coolant type

• Jet coolant

• Inside coolant

Chip evacuation



Coolant type

	Designation
DCJ20	DCJ20-6
	DCJ20-8
	DCJ20-10
	DCJ20-12
	DCJ20-16
DCJ32	DCJ32-6
	DCJ32-8
	DCJ32-10
	DCJ32-12
	DCJ32-16
	DCJ32-20
	DCJ32-25

Lock collet for milling chuck

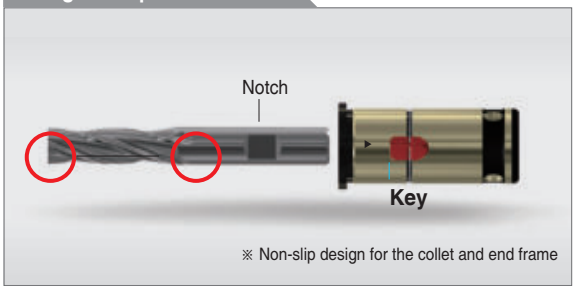
DCL

Milling chuck equipped with anti-fallout feature to prevent poor milling when machining a workpiece and improve tool service life (with DINE's milling chuck)

- Prevents the tool from falling out due to coolant pressure and vibration
- Useful for working with difficult-to-cut materials that require high workload
- Fit for difficult-to-cut materials with ultralight weight and high hardness in aerospace and automobile industries

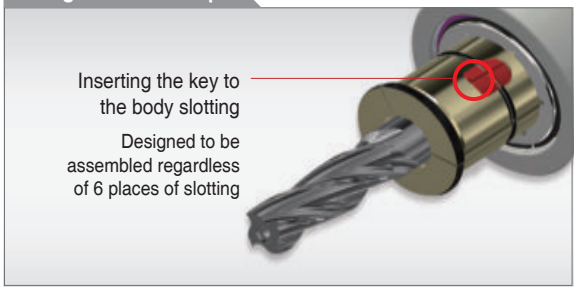
Features

Designed to prevent fallout



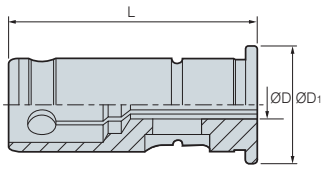
- Designed especially for extreme machining with a lot of mechanical actions, prevents the tool from deviating or falling out
- Weldon flat (DINE 6535HB) end mill used

Designed as non-slip



- Closely adhered to the grooves of the milling chuck - No slip occurring even under high torque

Detailed Specifications



(mm)

Designation	ØD	ØD1	L	Designation	ØD	ØD1	L
DCL20-6	6	20	53	**DCL32-10**	10	32	64.5
DCL20-8	8	20	53	**DCL32-12**	12	32	64.5
DCL20-10	10	20	53	**DCL32-14**	14	32	64.5
DCL20-12	12	20	53	**DCL32-16**	16	32	64.5
DCL20-14	14	20	53	**DCL32-18**	18	32	64.5
DCL20-16	16	20	53	**DCL32-20**	20	32	64.5
DCL32-6	6	32	64.5	**DCL32-25**	25	32	64.5
DCL32-8	8	32	64.5				

Parts

Basic			Basic		
Division	Key	C-Grip	Division	Key	C-Grip
Parts / Designation			Parts / Designation		
DCL20-6	DCL20-6K	DCL-CG20	**DCL32-10**	DCL32-10K	DCL-CG32
DCL20-8	DCL20-8K	DCL-CG20	**DCL32-12**	DCL32-12K	DCL-CG32
DCL20-10	DCL20-10K	DCL-CG20	**DCL32-14**	DCL32-14K	DCL-CG32
DCL20-12	DCL20-12K	DCL-CG20	**DCL32-16**	DCL32-16K	DCL-CG32
DCL20-14	DCL20-14K	DCL-CG20	**DCL32-18**	DCL32-18K	DCL-CG32
DCL20-16	DCL20-16K	DCL-CG20	**DCL32-20**	DCL32-20K	DCL-CG32
DCL32-6	DCL32-6K	DCL-CG32	**DCL32-25**	DCL32-25K	DCL-CG32
DCL32-8	DCL32-8K	DCL-CG32			

DAMPING PRO
Anti-Vibration Tool

KORLOY Anti-Vibration tool

KORLOY DAMPING PRO

- The application of a special design provides an excellent Anti-Vibration effect and is optimized for Overhang work
- Capable to elevate Feed comparing to standard arbor with stable machining
- Longer tool life and noise decrease
- Provides a solution for Mold, Deep Cavity machining, and Heavy-duty work

Code system

KDP - BT50 - FMA25.4 - 260

- **KDP** — KORLOY DAMPING PRO
- **BT50** — Arbor taper
  - BT type
  - HSK type
  - SK type
- **FMA25.4**
  - **FMA:** JIS B4113 Face milling
  - **FMB:** T-MAX Face milling/Shoulder Cutter
  - **FMC:** T-MAX Face milling/Shoulder Cutter
- **260** — Length of gauge line

Features

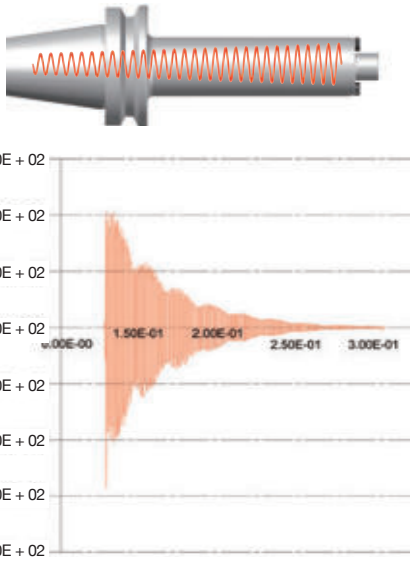
- Anti-Vibration: Exclusively designed Anti-Vibration structure
- Material: Special alloy steel
- Anti-Vibration body: Application of high density damper
- Overhang: Capable for 2D~5D
- Coolant: Inner coolant is capable

BT type HSK type SK type

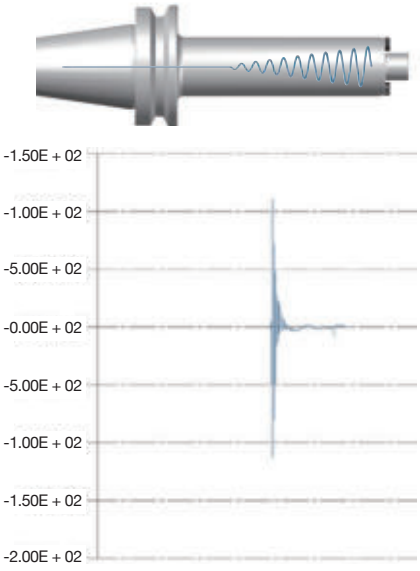
Various types and sizes are applicable

Comparison of vibration damping time

Standard Arbor	KORLOY DAMPIG PRO



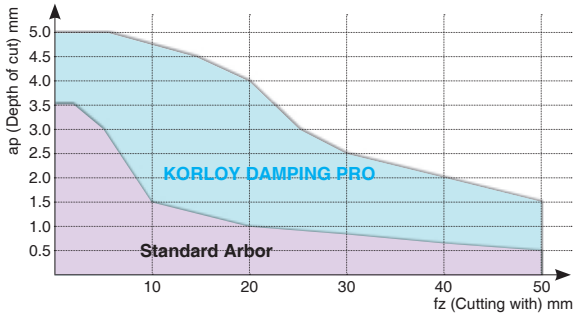
Longer Vibration damping time/
Chattering is caused while Overhang work



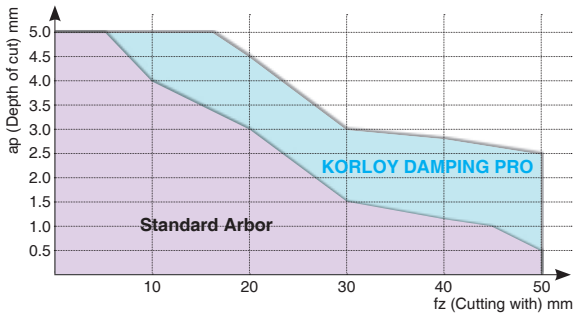
Short Vibration damping time/
Performance is 2~3 times better than standard arbor

Performance evaluation

- **Cutting condition:** fz (mm/t) = 0.1
  vc (m/min) = 100
- **Cutter:** AMC4063HS 6flute
- **Arbor:** BT50-FMC22-210 General arbor
  KDP-BT50-FMC22-210 Damping pro



- **Cutting condition:** fz (mm/t) = 0.1
  vc (m/min) = 100
- **Cutter:** FMRC3063HRD-H 6flute
- **Arbor:** BT50-FMC22-210 General arbor
  KDP-BT50-FMC22-210 Damping pro

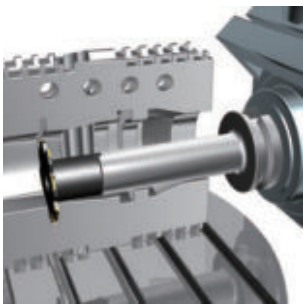


Application examples

Mold machining	Side milling cutter machining	Facing for long depth	Deep-hole Boring machining
			
Better productivity than general arbor	Excellent performance in the deep grooving	Better productivity and surface roughness than general arbor	Better surface roughness and machinability than general arbor

Side milling cutter machining example

- Faulty occurrence on size and surface roughness by the vibration, when use the general arbor
- **Using DAMPING PRO, good size and surface roughness**



■ **General arbor**
Cutting condition:
vc (m/min) = 50
fz (mm/t) = 0.1
ae (mm) = 20

■ **DAMPING PRO**
Cutting condition:
vc (m/min) = 100
fz (mm/t) = 0.1
ae (mm) = 20

Big size Crankshaft machining example

- General arbor: ap = 2 mm
- KORLOY DAMPING PRO: ap = 4mm available
- **2 times better productivity**

■ **General arbor**
Cutting condition:
vc (m/min) = 100
fz (mm/t) = 0.15
ap (mm) = 2

■ **DAMPING PRO**
Cutting condition:
vc (m/min) = 100
fz (mm/t) = 0.15
ap (mm) = 4

BT-FMA

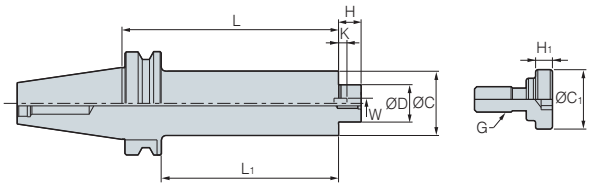


Fig. 1

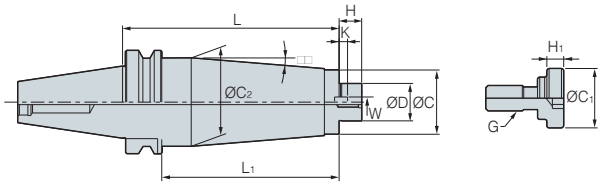


Fig. 2

(mm)

Designation		Cutter dia.	ØD	L	L1	ØC	ØC2	H	W	K	G	ØC1	H1	kg	Fig.	α°
KDP-BT40 -	FMA25.4-210	80	25.4	210	183	50	60	22	9.5	5	M12	33	10	5.42	2	1
	FMA25.4-260	80	25.4	260	233	50	60	22	9.5	5	M12	33	10	6.5	2	1.1
	FMA31.75-210	100	31.75	210	183	60	-	30	12.7	7	M16	40	10	5.94	1	-
	FMA31.75-260	100	31.75	260	233	60	-	30	12.7	7	M16	40	10	7.25	1	-
KDP-BT50 -	FMA25.4-210	80	25.4	210	172	50	78	22	9.5	5	M12	33	10	9.63	2	4
	FMA25.4-260	80	25.4	260	222	50	78	22	9.5	5	M12	33	10	11.8	2	3
	FMA31.75-210	100	31.75	210	172	60	85	30	12.7	7	M16	40	10	11.8	2	3
	FMA31.7 -260	100	31.75	260	222	60	85	30	12.7	7	M16	40	10	13.6	2	2.5

- The A type is for JIS B4113 Face milling
- The B type and C type are arbors for T-MAX Face Milling and shoulder cutter
- The weight (kg) shown in the chart does not include the weight of face cutter
- Key and screw are clamped
- Wrench is separately sold

Parts

	Basic				For separate purchase
Division	Key	Clamp bolt	Wrench bolt	Wrench bolt	Wrench
Parts / Designation					
FMA25.4	K9.5 (B)	MBA-M12	BX0412	BX1225	LW-10
FMA31.75	K12.7 (D)	MBA-M16	BX0515	-	LW-14

BT-FMC

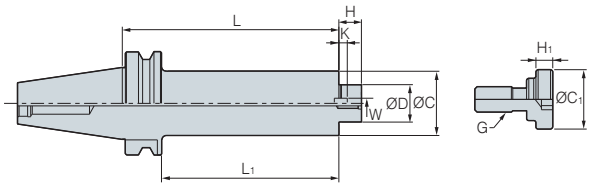


Fig. 1

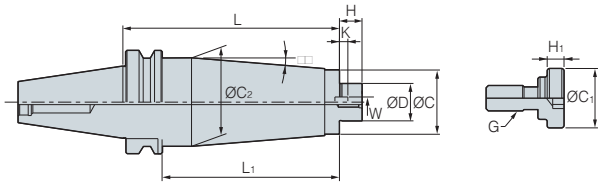


Fig. 2

(mm)

Designation		Cutter dia.	ØD	L	L_1	ØC	$ØC_2$	H	W	K	G	kg	Fig.	α°
KDP-BT40 -	FMC16-160	40	16	160	133	38	-	17	8	5	M8	2.45	1	-
	FMC22-210	50/63	22	210	183	48	4.95	19	10	5.6	M10	4.37	2	0.1
	FMC22-260	50/63	22	260	233	48	60	19	10	5.6	M10	6.3	2	1.5
	FMC27-210	80	27	210	183	60	-	21	12	6.3	M12	6	1	-
	FMC27-260	80	27	260	233	60	-	21	12	6.3	M12	7.25	1	-
KDP-BT50 -	FMC16-171	40	16	171	133	38	-	17	8	5	M8	5.1	1	-
	FMC22-210	50/63	22	210	172	48	49.5	19	10	5.6	M10	7.3	2	0.1
	FMC22-260	50/63	22	260	222	48	62	19	10	5.6	M10	10	2	1
	FMC27-210	80	27	210	172	60	78	21	12	6.3	M12	10.6	2	2.5
	FMC27-260	80	27	260	222	60	78	21	12	6.3	M12	12.6	2	2
	FMC27-320	80	27	320	282	60	78	21	12	6.3	M12	14.8	2	1
	FMC32-210	100	32	210	172	78	-	24	14	7	M16	11.7	1	-
	FMC32-260	100	32	260	222	78	-	24	14	7	M16	14.2	1	-
	FMC32-330	100	32	330	292	78	-	24	14	7	M16	16.6	1	-

- The A type is for JIS B4113 Face milling
- The B type and C type are arbors for T-MAX Face Milling and shoulder cutter
- The weight (kg) shown in the chart does not include the weight of face cutter
- Key and screw are clamped
- Wrench is separately sold

Parts

	Basic				For separate purchase
Division	Key	Clamp bolt	Wrench bolt	Wrench bolt	Wrench
Parts / Designation					
FMC16	K8.0 (A)	-	BX0310	BX0820	LW-6
FMC22	K10.0 (C)	-	BX0412	BX1030	LW-8
FMC27	K12.0	MBA-M12	BX0616	-	LW-10
FMC32	K14.0	MBA-M16	BX0820	-	LW-14

HSK-FMA

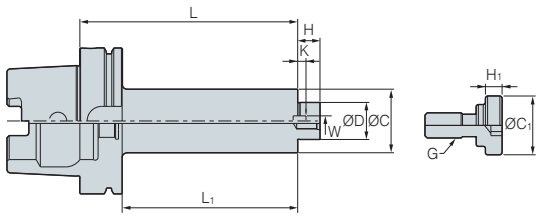


Fig. 1

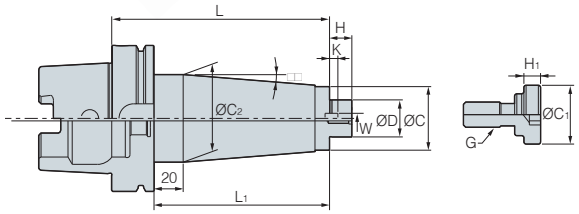


Fig. 2

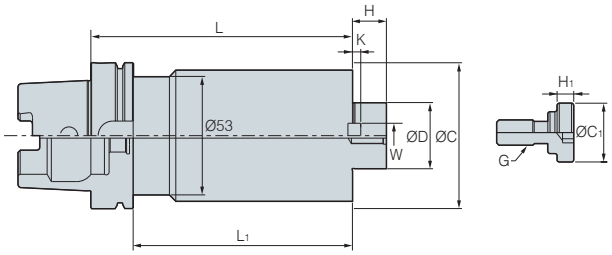


Fig. 3

(mm)

Designation		Cutter dia.	ØD	L	L_1	ØC	$ØC_2$	H	W	K	G	$ØC_1$	H_1	kg	Fig.	α°
KDP-HSK63 -	FMA25.4-210	80	25.4	210	184	50	53	22	9.5	5	M12	33	10	4.55	3	0.1
	FMA25.4-260	80	25.4	260	234	50	53	22	9.5	5	M12	33	10	5.6	3	0.1
	FMA31.75-210	100	31.75	210	184	60	-	30	12.7	7	M16	40	10	5.52	2	-
	FMA31.75-260	100	31.75	260	234	60	-	30	12.7	7	M16	40	10	6.9	2	-
KDP-HSK100 -	FMA25.4-210	80	25.4	210	181	50	78	22	9.5	5	M12	33	10	8.32	3	4
	FMA25.4-260	80	25.4	260	231	50	78	22	9.5	5	M12	33	10	10.5	3	3
	FMA31.75-210	100	31.75	210	181	60	85	30	12.7	7	M16	40	10	10.9	3	3
	FMA31.75-260	100	31.75	260	231	60	85	30	12.7	7	M16	40	10	12.8	3	2.5

- The A type is for JIS B4113 Face milling
- The B type and C type are arbors for T-MAX Face Milling and shoulder cutter
- The weight (kg) shown in the chart does not include the weight of face cutter
- Key and screw are clamped
- Wrench is separately sold

Parts

	Basic				For separate purchase
Division	Key	Clamp bolt	Wrench bolt	Wrench bolt	Wrench
Parts / Designation					
FMA25.4	K9.5 (B)	MBA-M12	BX0412	BX1230	LW-10
FMA31.75	K12.7 (D)	MBA-M16	BX0515	-	LW-14

HSK-FMC

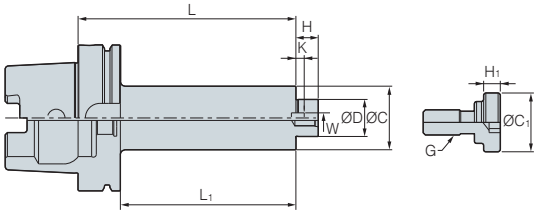


Fig. 1

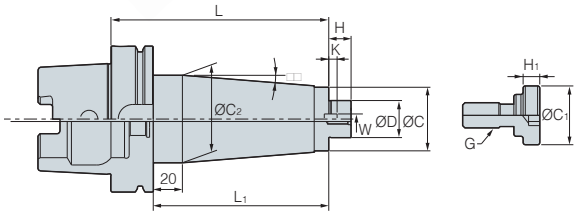


Fig. 2

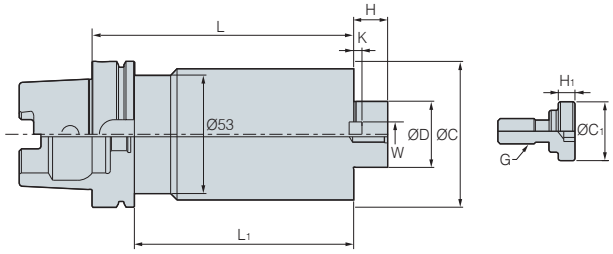


Fig. 3

(mm)

Designation		Cutter dia.	ØD	L	L_1	ØC	$ØC_2$	H	W	K	G	kg	Fig.	α°
KDP-HSK63 -	FMC16-160	40	16	160	134	38	-	17	8	5	M8	2.10	1	-
	FMC22-210	50/63	22	210	184	48	4.95	19	10	5.6	M10	3.82	1	0.1
	FMC22-260	50/63	22	260	234	48	62	19	10	5.6	M10	6.14	3	1.6
	FMC27-210	80	27	210	184	60	-	21	12	6.3	M12	5.53	2	-
	FMC27-260	80	27	260	234	60	-	21	12	6.3	M12	6.83	2	-
KDP-HSK100 -	FMC16-160	40	16	160	131	38	-	17	8	5	M8	3.45	1	-
	FMC22-210	50/63	22	210	181	48	49.5	19	10	5.6	M10	4.60	3	0.1
	FMC22-260	50/63	22	260	231	48	62	19	10	5.6	M10	8.10	3	1
	FMC27-210	80	27	210	181	60	78	21	12	6.3	M12	8.44	3	2.5
	FMC27-260	80	27	260	231	60	78	21	12	6.3	M12	10.40	3	2
	FMC27-320	80	27	320	291	60	78	21	12	6.3	M12	13.60	3	1
	FMC32-210	100	32	210	181	78	-	24	14	7	M16	10.20	1	-
	FMC32-260	100	32	260	231	78	-	24	14	7	M16	13.00	1	-
	FMC32-330	100	32	330	301	78	-	24	14	7	M16	15.43	1	-

- The A type is for JIS B4113 Face milling
- The B type and C type are arbors for T-MAX Face Milling and shoulder cutter
- The weight (kg) shown in the chart does not include the weight of face cutter
- Key and screw are clamped
- Wrench is separately sold

Parts

	Basic				For separate purchase
Division	Key	Clamp bolt	Wrench bolt	Wrench bolt	Wrench
Parts / Designation					
FMC16	K8.0 (A)	-	BX0310	BX0820	LW-6
FMC22	K10.0 (C)	-	BX0412	BX1030	LW-8
FMC27	K12.0	MBA-M12	BX0616	-	LW-10
FMC32	K14.0	MBA-M16	BX0820	-	LW-14

SK-FMC

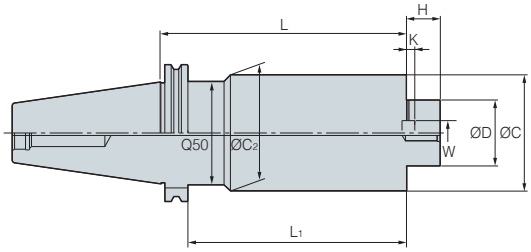


Fig. 1

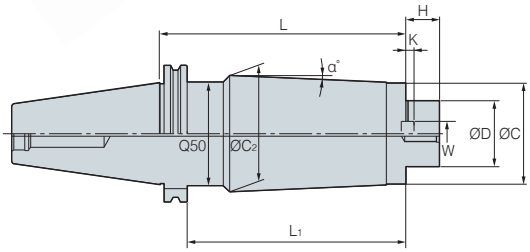


Fig. 2

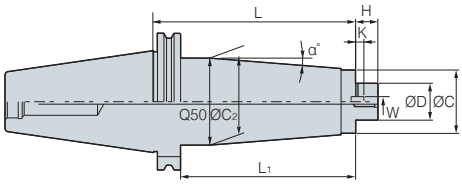


Fig. 3

(mm)

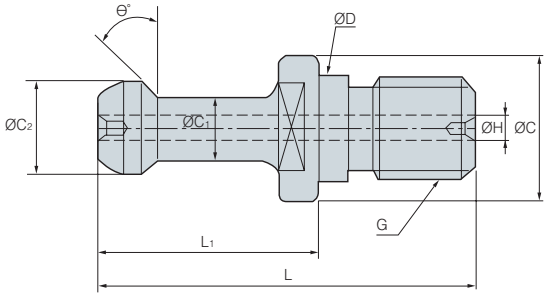
Designation		Cutter dia.	ØD	L	L_1	ØC	$ØC_2$	H	W	K	G	kg	Fig.	α°
KDP-SK40 -	FMC22-210	50/63	22	210	183.0	48	49.5	19	10	4.4	M10	4.4	3	0.1
	FMC22-260	50/63	22	260	233.0	48	60	19	10	5.6	M10	6.2	2	1.4
	FMC27-210	80	27	210	183.0	60	60	21	12	6.3	M12	5.9	1	-
	FMC27-260	80	27	260	233.0	60	60	21	12	6.3	M12	7.2	1	-
KDP-SK50 -	FMC22-210	50/63	22	210	190.9	48	49.5	19	10	5.6	M10	6.4	3	0.1
	FMC22-260	50/63	22	260	240.9	48	62	19	10	5.6	M10	9.1	3	1
	FMC27-210	80	27	210	190.9	60	78	21	12	6.3	M12	9.8	3	2.5
	FMC27-260	80	27	260	240.9	60	78	21	12	6.3	M12	12.4	3	1.8
	FMC27-320	80	27	320	300.9	60	78	21	12	6.3	M12	14.5	3	1.2
	FMC32-210	100	32	210	190.9	78	-	24	14	7	M16	11.5	1	-
	FMC32-260	100	32	260	240.9	78	-	24	14	7	M16	14	1	-
	FMC32-330	100	32	330	310.9	78	-	24	14	7	M16	16.4	1	-

- The A type is for JIS B4113 Face milling
- The B type and C type are arbors for T-MAX Face Milling and shoulder cutter
- The weight (kg) shown in the chart does not include the weight of face cutter
- Key and screw are clamped
- Wrench is separately sold

Parts

	Basic				For separate purchase
Division	Key	Clamp bolt	Wrench bolt	Wrench bolt	Wrench
Parts / Designation					
FMC16	K8.0 (A)	-	BX0310	BX0820	LW-6
FMC22	K10.0 (C)	-	BX0412	BX1030	LW-8
FMC27	K12.0	MBA-M12	BX0616	-	LW-10
FMC32	K14.0	MBA-M16	BX0820	-	LW-14

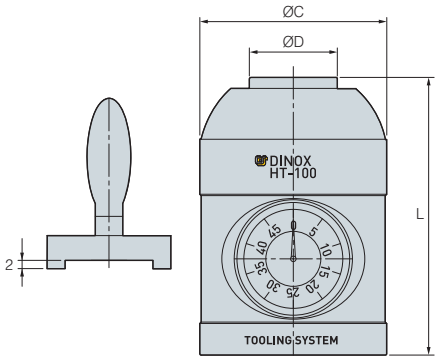
Pull Stud Bolt



(mm)

Designation	ØD	ØC	ØC1	ØC2	L1	L	θ	G	ØH
P20T-1	8.5	12	6	8.5	17.5	31.5	15°	M8	
P30T-1	12.5	16.5	7	11	23	43	45°	M12	
P30T-1(Ø2.5)	12.5	16.5	7	11	23	43	45°	M12	Ø2.5
P30T-2	12.5	16.5	7	11	23	43	30°	M12	
P30T-2(Ø2.5)	12.5	16.5	7	11	23	43	30°	M12	Ø2.5
P40T-1	17	23	10	15	35	60	45°	M16	
P40T-1(3)	17	23	10	15	35	60	45°	M16	Ø3
P40T-2	17	23	10	15	35	60	30°	M16	
PS40-3F	17	23	10	15	35	60	0°	M16	
PS-G51	17	22	12.45	18.8	19.11	44.11	45°	M16	Ø7
DIN69872-A40	17	23	14	19	26	54	15°	M16	Ø7
DIN69872-B40	17	23	14	19	26	54	15°	M16	
JISB6339-A40(PS-806)	17	23	14	19	29	54	15°	M16	Ø7
JISB6339-B40(PS-805)	17	23	14	19	29	54	15°	M16	
P50T-1	25	38	17	23	45	85	45°	M24	
P50T-1(7)	25	38	17	23	45	85	45°	M24	Ø7
P50T-2	25	38	17	23	45	85	30°	M24	
PS50-1F	25	38	17	23	45	85	0°	M24	
PS50-1FH	25	38	17	23	45	85	0°	M24	Ø8
PS-G41	25	37	20.83	28.96	25.2	65.2	45°	M24	Ø10
DIN69872-A50	25	36	21	28	34	74	15°	M24	Ø11.5
P50T-1HS	25	38	17	23	45	85	45°	M24	Ø5.7

HT



(mm)

Designation	ØD	ØC	L
HT-100	32	68	100

- Good for setting the Tool length at CNC machine
- No inturferance between height Touch setter and Tool makes safe work
- Location Accuracy: ±0.003 mm